

PHARMACO-BOTANOLOGIA:

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An Alphabetical and Classical

DISSERTATION

ON ALL THE

British Indigenous and Garden Plants

OF THE

New London DISPENSATORY.

In which

Their GENERA, SPECIES, *Characteristick* and *Distinctive* NOTES are Methodically described; the *Botanical* TERMS of ART explained; their *Virtues*, *Uses*, and *Shop-Preparations* declared.

With many CURIOUS and USEFUL REMARKS from proper Observation.

By PATRICK BLAIR, M. D. of Boston in Lincolnshire, and Fellow of the ROYAL SOCIETY.

Miseri mortales qui Naturam ejusque artificium Abdunt, ubique diligentia patens, & Amplissimos solis radios Nubecula obfuscant.
Barth. Epist. ad Lyserum.

L O N D O N :

Printed for G. STRAHAN at the *Golden Ball* over-against the *Royal Exchange* in *Cornhill*; W. and J. INNYS at the West End of *St. Paul's Church-Yard*; and W. MEARS at the *Lamb*, without *Temple Bar*. MDCCXXIII.

THE UNIVERSITY OF CHICAGO

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T H E

P R E F A C E.



H A T this DISSERTATION may prove answerable to the Title, I have treated of the PLANTS in this Catalogue in a Botanical as well as Physical Respect; that so he who will only study Botany, may attain to the Knowledge of Plants, without Regard to their Virtues; and the young Beginner in Physick, or Pharmacy, may be taught their Virtues, without prying into the Niceties of Botany; and that such as are desirous to know both, may receive suitable Instruction at an easy Rate, without much Pains in Reading, or Money in Purchasing the numerous Volumes of Botanic Books, among which the Official Plants are dispersed. I have neither so abridged their Description, as only to excerpt from another a few short Notes of their Characters and Virtues, as some (who collected them into one Body) nor separated such as ought to be united, in both Regards, by an Alphabetical Disposition, as others have done; but by abridging the Catalogue, and by making the Alphabet my Rule, and the Classical Disposition my Method, I have framed such a Botanical Synopsis, as may afford Examples of the several Tribes of European Plants, and give an Inlet into the several Methods into which they have been reduced. I have shewn how

far their Virtues suit with their Characters, reconciled the seeming Discrepancy among the several Methods, and ordered Matters so, that by looking into the Tribe you may guess at the Virtues: You may know the Tribe by its Characters, and distinguish each individual Plant or Species by its peculiar Notes; by which an agreeable Harmony may appear in their Classes, Sections, Genera, Species, Characteristick and Distinctive Notes, Virtues and Uses.

This is what I promised in my Miscellaneous Observations, p. 112. It is what has undergone various Shapes, and what is now sent Abroad into the World, as the Product of several Years proper Experience: The Occasion of it was this; being obliged to give Botanical Lectures to some Students in Physick and Pharmacy, then under my Care, I first planted the Dispensatory Plants alphabetically in my Garden, I dictated an History of them in Latin, which I afterwards designed for the Press; but that (taking in every minute Circumstance) swelled to too large a Volume; and not having so great a Regard to Method, which then came much to be enquired after, I was fain to lay it aside. Mr. Dale had prevented me in the Prosecution of Mr. Ray's Method, I looked upon Tournefort's to be more instructive, as teaching how to examine more narrowly by the Flowers and Fruits of Plants. I next made an Improvement upon it, by adding a Compendious Description of the other Parts of the Plants, and a summary Account of their Virtues and Uses. This Undertaking was so well approved of by Dr. Charles Prestone, Professor of Botany at Edinburgh, that I was encouraged to present it to the Celebrated Sir Hans Sloane, with whom I then was (without any personal Acquaintance) in frequent Correspondence, who was pleased favourably to accept of it, and along with the late ingenious Mr. Pctiver was at much Pains to have it published; but the Booksellers Stomachs were so glutted with Mr. Ray's Botanical Latin Writings, that nothing on that Subject and in that Language would go down with them: This induced Sir Hans to think of having the Manuscript published in Holland, while Mr. Pctiver was rather
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of Opinion it ought to be rendered into English. In Obedience to his Desire, I framed A Table of the Dispensatory Plants, distributed according to their Virtues (which is since published in Copper Plate at the Desire of the Generous Dr. Mead) as a Specimen of the Method in which I was to class them; but that being attended with the Inconvenience of a frequent dis-joyning Plants of the same Character, by pointing out their more noted Virtues; v. g. Absynthium is more known for a Vermifuge, and Artemisia for an Hysterick, though they be Congeners; I desisted from it, as not answering my Design, which was to shew how far the Virtues of Plants may be pointed out by their Characters, and what Sympathy there is between them. This mov'd me to send him a Schedule of this Alphabetical and Classcal Disposition, which he much approved of. These frequent Disappointments stopt my Pen for some Time, nor did I incline to dip it again, until I had given a previous Specimen of my Knowledge of the Plants themselves, as well as of their Virtues. This made me enter into an Epistolary way of Conversing with my worthy Friend Mr. Petiver, before a Personal Acquaintance, as is to be seen, Letter IV, V, and IX, in my Observations. Some time after, when I had taken up my Residence in London, I bethought myself of making some other Botanical Improvements, for the Entertainment of the Royal Society, which gave the rise to those Essays I publish'd about three Years since. And now at length being retired to a Country Place, I have propos'd to employ my leisure Hours in discoursing on the Practical, as formerly I did on the Theoretical Part of the Indigenous and Home-bred Vegetables: Yet so, as not to surfeit the Reader by perusal of too large a Volume at once, nor withdraw my self from the Exercise of my Profession, in too close a Pursuit of a prolix Subject; but by parcelling out the Description of a few Plants at a time, to give him Time to Ruminare upon one Part, while I am preparing another for his Entertainment.

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The

The Plants herein contain'd, and in the subsequent Decads have been so often treated of, that a Performance of this Nature may seem superfluous; but they have been so superficially handled by some, prolixly by others, confusedly by a third, and so variously interspers'd by the Composers of whole Botanick Systems by the fourth; that the Reader will soon see no ostentatious Affectation, no vain-glorious Itching to be an Author, has prompted me to publish a Work upon a Subject of this Nature; I plead not the Desire and Solicitations of Friends; what I have most in my View, is, to manifest the Glory of God, and his Omnipotence, in endowing Man with a rational Faculty to discern these wonderful Productions of his divine Wisdom, and his providential Care over Man; who, as he has since the Fall been liable to such Infirmities as the Weakness of his Nature, the Mismanagement of himself in this lapsed State, or perhaps vicious Inclinations, or his immoderate Debaucheries have brought upon him, and made him subject to divers Diseases, and various Tortures, Torments and bodily Pains and Afflictions; so he has provided such a vast Variety of Remedies, always, almost in his View, which apply'd in a regular Manner, by knowing and well skill'd Persons, are capable, if not to Cure, at least to lighten a burthensome and heavy Load of Sicknes, and assuage the Vehemency of his Pains. Nor is the Providence of God less observable, in providing to every Climate the fit Antidotes to remove the Epidemical Infections, the Inhabitants of such a Soil or Climate are most obnoxious to: A pregnant Instance of which, is to be seen in this first Decad, where such a potent Febrifuge as Wormwood, abounds so much in a Place where Agues, and Fevers are so Epidemical. My second Motive was, a great Concern to see so useful and agreeable a Subject handled so superficially; I was in Hopes, that if I did not manage it to a wish'd for Advantage, I might, at least, afford much Satisfaction to a curious Reader, and hitherto communicated by none before these have seen the Light, as
might

might become both pleasant and profitable. So much do I keep in Mind the Motto of the Royal Society, NULLIUS IN VERBA. Which leads me to a third, and no less powerful Argument, for my publishing of these, (viz.) That I may in some Measure answer my Engagements to that Illustrious Body, by making suitable Improvements in Natural Knowledge. I was so readily accepted of to be one of their Fellows, when at a great Distance, and Personally unknown to any of them; they have ever, so favourably receiv'd the Discourses I have presented to them, I owe such Obligations to several of the most Eminent amongst them; and amongst those of the Royal College of Physicians, such as Sir Isaac Newton, President; Sir Hans Sloane, Vice-President of the Royal Society, and President of the College of Physicians, Dr. Mead, Dr. Sherard, and several others, I need not name; that were there no other Engagements, I am bound by the highest Gratitude to make this thankful Acknowledgment, by exerting my utmost to do what I hope will prove Satisfactory to all.

*It is not without Reluctance, that I am forced to address my self to so many honourable and learned Persons in a vernacular Phrase; and instead of obliging the unlearn'd, to acquire such a Competency of the universal Languages, as to make them capable to understand these, I am forced to convert them into the Mother Tongue, by which the most impudent Pretender to Physick, as well as the most regularly educated in that delightful and useful Science, may become equally knowing. Physick, whose greatest Ornament has been hitherto that of Learning, is now brought so low, that the Apothecaries, one of its greatest Branches (since to them are committed those precious Means for the Preservation and Recovery of Man's Health) are for the most Part, as ignorant of the Materia Medica, (of which they ought to be the sole Dispensers) as those abominable Impostures the Quacks and Mountebanks, and those pittiful silly Herb-women, whose Trade it is to cheat them, with imposing upon them such Herbs as
they*

they please, without controul. These are they who delude the Multitude, and make the World believe they can cure all Diseases, to the Hazard of many thousand Brittish Lives; while the Apothecaries, for want of a sufficient stock of Learning, are in no Capacity to contradict, or withstand them, or to mount one Step above them, either for Knowledge, or Converse, by which they ought to be distinguish'd. On the Contrary, being still on the Level with those vile Wretches, they joyn Hand in Hand to suppress, discourage, and keep under, those, who by a more liberal Education, and diligent Studies, and assiduous Labour, with great Pains, and vast Expences, have arriv'd at such a pitch of Knowledge and Experience in their Profession, as fits them to be Companions to those of the best Character and Quality; and to whom, the Patient may, with the greatest Confidence and Freedom, entrust the Care of their Health and Life; since the Principles of Honour, as well as Duty and Conscience, are usually inherent in those who have been thus train'd up by a civiliz'd and liberal Education.

These Considerations were a great Hindrance to my setting forward in this Work; I must adapt my Discourse to those of the meanest Capacity, and convert the Technical Words, or Botanical Terms of Art, into such English as may be easily understood, otherwise I could do no Service, because I am sensible the expressing them in the Original Greek and Latin, is one of the Reasons why Botany has hitherto lain so long neglected, by those whose Business it is to know it; and I rather chuse to render so delightful a Science so easy, that it may be universally known, than that it should always remain as a hidden Treasure, in the Hands of a very few. So that my principal Business must be, if I succeed, to fall upon such an instructive Method as may allure the Reader, and stir him up into a desire of diving more deeply into it. Ignotis nulla Cupido, is too frequent an Observe. The wholly Ignorant have no Taste of any Science, until by easy and gentle Means they be, as it were,
led

led to grope after what they may rest and lean upon, to feel what may be smooth and delightful to Taste, what may have a Relish and become Palatable, and to have a glimpse of what they may more clearly see through, and of what they may have a better Understanding in process of Time. Then it is that a desire after Knowledge enters the Mind. Then does an earnest Inclination to enquire farther possess the Soul, and then do they begin to have an Esteem for what before they had no Value.

In order to attain all these good Ends and Purposes, I have endeavour'd to omit nothing that's Curious or Instructive, and to advance nothing that is Superfluous; but to assert what I imagine may prove both Useful, and Necessary in the Botanical and Physical way.

First, To ease the Reader of a tedious turning over of a great many Volumes, I have directed him to such as have best treated of such and such a Plant, I give the several Synonymous Names, and an Index of the Tome Book, Leaf, Page, Table where 'tis to be found, or its engraved Figure is to be observed.

Secondly, The Alphabetical Disposition introduces the first Plant by the Initial Letter, and the Classical joyns to it all those of the same Tribe or Family.

Thirdly, When any new Plant introduces a new Tribe, I take notice of the several marks and Characters requisite to Constitute it in the General, and when two or three, or more of them are joyned together, I give the Characteristick Notes in the General, wherein they Agree, and the distinctive Notes in particular, in which they Disagree.

Fourthly, After this I proceed to a particular Description of each Plant, not with that exactness Dr. Tournefort has done by giving the exact measure in the bigness of each Flower and
Fruit,

Fruit, because I am Sensible that many often vary; but by giving such an Account of them chiefly from proper Observation, as I hope will be Sufficient to make them be easily known.

Fifthly, I take care every where to Explain the Technical Words or Terms of Art, as they first fall in my way; and if any Tribe, or Family, or Term of Art occur afterwards: The Reader needs only to consult what has been said before on the Subject, to which he shall be directed by a proper Index.

For the Medicinal Part.

THE Virtues are such as are handed down to us from the Ancients, or introduced into Practice by modern enquiries; or such as consist with my own, or Correspondents proper Experience. I give a General Idea of the Texture of the Parts, give Account of their Use, whether External or Internal; I enumerate the Shop Preparations, in which they are chiefly concern'd, or into which they enter according to the New London Dispensatory.

*To accomplish such a design, as it ought to be, would be a Work of more Pains and Labour than my Business would admit, were I to Publish it all at once, and indeed a task too great for any one Person to perform, which made me rather resolve upon a Monthly Publication, which I hope will be an Encouragement to the Undertaker, and Buyer; for the Charge in Printing the first Decad, will not be so great as of the whole Work, and if the Sale of that is Damn'd (as the Printers phrase it) I shall save my Labour in proceeding further, for if the Reader is not pleased with what he finds in the first, he shall not be put to the Charge of buying any more, and if these prove Satisfactory, the gradual laying out of a Shilling at a time will not be very hard upon the Pocket. But further, I can better bestow
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my idle Hours in examining and giving a more exact description of a few Plants, than had I a great many upon my hands at once, to be hurry'd out to publick view: Also by 'tis this means I give an opportunity to my Correspondents to Communicate what they shall more particularly observe, or know in the Subsequent Plants of this Catalogue, which is to known by my Table of Dispensatory Plants already mentioned to be had at Mr. Strahan, Mr. Innys and Mr. Mcars Booksellers: And therefore for the Benefit of the Publick, and for the furtherance of so useful an Undertaking, I solemnly Invite, Desire and earnestly Entreat of all Eminent and Expert Botanists, all Physicians and Apothecaries, all Curious and Expert Gardiners, or any other Ingenious Persons who have, or shall Observe any thing relating to the Botanical, Physical, Pharmaceutical or Chymical Part of these Plants, or what may concern their Culture and Management, that they would be pleased to Communicate such their Curious Remarks to me, and I shall take special care to have them publish'd in their Name, and after what manner they shall desire, and if there be any thing yet wanting to Compleat the first Decad, upon Information it shall be either added or altered, as an Appendix to this, or annexed to the next Decad.

I am to divide the whole into several Decads, each Decad is to consist of Forty Plants (more or less) as they shall require to be more fully or briefly treated of, to be continued Monthly, untill I have Compleated about Four Hundred Indigenous or Garden Brittish Dispensatory Plants.

To Conclude I commit these to the Serious Perusal of the Judicious, if any Censorious Critick shall take the pains to Carp at them, he is welcome, but his better endeavour would be to out do them by a better Performance, than to offer to undo what perhaps himself cannot amend: I hope to demean my self, as one who Consults nothing so much as the Publick good. My great Design is to give further Instruction, and Information to those of the several Branches of my Profession, especially the younger sort,

sort, and I hope I may be allowed the Use of that Eminent Botanist, Dr. Morrison's Phrase, Doctis Scribo, Indoctos docebo. In a word if these prove Useful to those in the Shops; if diverting to such as resort to the Fields, and Gardens; and if Satisfactory to the Royal Society, as being one of the Parts of those Improvements of Natural Knowledge, for the which they were so Solemnly Erected into an Honourable, as well as Learned Body, I have what I wish for, it's all that I desire



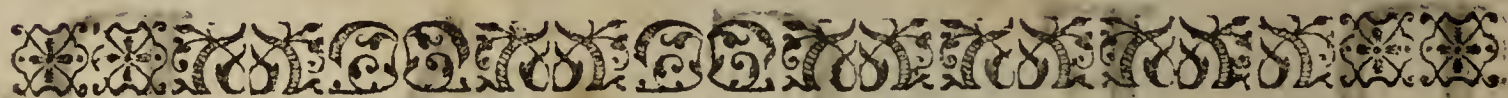


THE
P R E F A C E
T O T H I S
D E C A D .



THOUGH the Dispensatory Plants in this, hardly exceed the Number of Forty, of which each Decad is to consist; yet it's of a greater Length, than I at first propos'd: The Alphabet led me to some valuable Physical Plants; every Plant, almost, introduc'd a New Tribe: I had the Marks, Notes, and Characters of each to describe; and the Terms of Art to explain; with a suitable Account to give of their Virtues; but if these Sheets are thus filled up, I hope hereby to render the following Decads more intelligible by them. Here you have an Example of the most noted Juliferous Ever-greens, in the Abies; the Corymbiferous naked Flowers, in the Abrotanum; with a large Dissertation on the Sea-Wormwoods hitherto not observ'd. Here you have the other Irides join'd to the
d
Acorus,

Acorus Adulterinus; *the other lesser Capillaries to the Adianta; The Apetalous Flowers explained in the Acetosa; and the Malvaceous Tribe describ'd at large with the Alcæa: besides other Plantæ sui generis; such as Acorus verus, Acanthus, &c. and all in so plain and Familiar a way as may not only render the knowledge of these Decads the more easy, but direct how to make use of the Volumes of the other Botanical writings quoted with the Synonima of their Names. So that if the Reader will narrowly pry into these, and Examine the Plants themselves by the Rules and Directions herein laid down, I am persuaded he may come to have a more intimate Knowledge of the Plants and their Virtues, with less trouble and smaller Charges than by any other Method hitherto made use of. I have endeavoured to avoid Superfluity, and to neglect nothing that's necessary; and if the Reader shall receive any Benefit thereby, I shall obtain what I desire.*



ERRATA.

PAge 8. line 28. read *luteo*. p. 10. l. 34. r. *Stalk*, p. 14. l. 29. r. X. i. p. 15. l. 10. r. 2. p. 17. l. 18. r. *grows in*. l. 31. r. *enters*. p. 32. l. 9. r. *Monocotyledones*. p. 38. l. 12. dele *only*. p. 44. l. 19. r. *as well as*. p. 48. l. 21. r. *Quercetan*.

THE



THE PLANTS of this DECADE.

I. A BIES			
1. <i>Conis sursum spectantibus</i>	Page 1	4. <i>Britannica</i>	ibid.
2. <i>Rubra sive Picea</i>	ibid.	5. <i>Vesicaria</i>	ibid.
II. <i>Pinus</i> ,		XIV. <i>Acetosella</i>	30
1. <i>Sativa</i>	2	XV. <i>Acorus Adulterinus</i>	31
2. <i>Silvestris</i>	ibid.	XVI. <i>Iris Germanica</i>	ibid.
3. <i>Silvestris Scotica</i>	ibid.	XVII. <i>Iris Florentina</i>	ibid.
III. <i>Abrotanum fœmina</i>	8	XVIII. <i>Spatula Fætida</i>	32
IV. <i>Tanacetum</i>	ibid.	XIX. <i>Acorus Verus</i>	34
V. <i>Balsamita Mas</i>	ibid.	XX. <i>Adiantum</i>	
VI. <i>Stæchas Citrina</i>	9	1. <i>Album</i>	35
VII. <i>Gnaphalium Montanum</i>	ibid.	2. <i>Nigrum</i>	ibid.
VIII. <i>Abrotanum Mas</i>	13	XXI. <i>Trychomanes</i>	36
IX. <i>Dracunculus</i>	ibid.	XXII. <i>Polypodium</i>	ibid.
X. <i>Absynthium</i>		XXIII. <i>Asplenium</i>	ibid.
1. <i>Ponticum</i>	ibid.	XXIV. <i>Lingua Cervina</i>	ibid.
2. <i>Tenuifolium</i>	ibid.	XXV. <i>Adiantum Aureum</i>	38
3. <i>Marinum</i>	17	XXVI. <i>Agrimonia</i>	39
XI. <i>Artemisia</i>	23	XXVII. <i>Alcæa</i>	40
XII. <i>Acanthus</i>	25	XXVIII. <i>Althæa</i>	ibid.
XIII. <i>Acetosa</i>		XXIX. <i>Malva Vulgaris</i>	ibid.
1. <i>Arvensis Lanceolata</i>	27	XXX. <i>Malva Arborea</i>	
2. <i>Pratensis</i>	ibid.	1. <i>Sive Rosea</i>	ibid.
3. <i>Romana</i>	ibid.	2. <i>Maritima Nostras</i>	ibid.
		<i>Alcea Peregrina</i>	44

BOOKS

BOOKS Printed for, and Sold by G. STRAHAN, at the
Golden Ball, over against the Royal Exchange in Cornhill.

A New Table of Dispensatory Plants distributed according to their Virtues, Engrav'd on a broad Sheet in Copper, and Dedicated to Dr. Mead. By P. Blair, M. D.

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PHARMACO-BOTANOLOGIA:

OR, A

TREATISE

OF

DISPENSATORY PLANTS,
Alphabetically and Classically disposed.

DECAD I.

A



THE first *Plant* of this Catalogue in the Alphabet is *Abies*, the *Firr-Tree*: To which I have added *Pinus*, the *Pine-Tree*; which tho' at a great Distance by the initial Letter, yet is of the same *Tribe* or *Family*.

I. *ABIES*.

1. *Abies conis sursum spectantibus*. C. B. P. 505. *Fœmina* S. ελάτι θήλεια. J. B. Tom. 1. l. 9. p. 231. *Taxi* fol. R. H. 1394. *Tax.* fol. *Fructu sursum spectante*, Tourn. 585. Tab. 353, 354. The *Yew-leav'd Firr-Tree* or *Silver-Firr*.

2. *Abies* Baub. in *Math.* 102. Lob. icon, 231. Tab. lib. 3. p. 640. *Picea* Dod. pempt. 863. *Abies mas Theophrasti*, *Picea Latinorum* S. ελάτι ἀρσέν.

B

J. B.

J. B. 238. *major prima*. S. *Abies rubra* C. B. P. 493. *Abies tenmore folio fructu deorsum inflexo*, Tourn. *Conis deorsum spectantibus*, R. H. 1396. *The Pitch-Fir-Tree*.

II. P I N U S.

1. *Pinus Sativa* C. B. p. 491. Tourn. *Officulis duris foliis Longioribus*, J. B. 1. 9. 248. R. H. 1398. *Manur'd Pine*.

2. *Pinus Silv.* C. B. P. 491. *Sylv. sive Pinaſter* Dod. pempt. 860. *Sylv. Mont. Tab. 3. 638. Pinaſter* Brum. T. 3. p. 238. *Lob. Icon. 226. Gesner. Hort. f. 272. Thal. p. 90. Sylv. vulg. Genevens*, J. B. 253. *Raij Hist. 1399, Mountain-Pine, or Pinaſter*.

3. *Pinus Sylv. foliis brevioribus glaucis, Conis parvis albertibus. Abies Scotica perperam dicta* R. H. 1401. *Synops. Stirp. Brit. 288. Mountain-Pine, falsely called the Scots Firr*.

Their T R I B E.

THE Characteristick Notes of these noted big Trees, are, that they are Ever-Greens, with an Amentaceous, or Juliferous Flower, called a Katkin, growing upon different Parts of the same Tree, from a Cone, or a Conical scaly hard Fruit.

1. The Firr is a tall strait Tree, with a superficial Root, sending forth five, six, or seven Branches, round the Trunk, at certain Distances, bending horizontally outward, (not downward, as some have asserted.) The lesser proceed indeterminately from the Center to the Circumference of the greater Branches, and these again, being irregularly subdivided, form so many agreeable Circles, ascending gradually, at certain Distances, along the Trunk of the Tree; so that by the Number of the Circles, or Knots, where the lower Rows have been lopp'd off, the Age of the Tree may be computed. In July, the Leaf-Bud, for the ensuing Year, begins to appear, at the Extremities and Sides of the Branches, where 'tis again to be branch'd forth, covered with a thin brown Pellicle, or Membrane, which falls off next Spring, and then the tender Leaves, single, not in Pairs, spread forth themselves. The Katkins, in the Month of April and May, appear here and there upon the Branches, long, small, cylindrical, and blunt, consisting of several yellow Summits, or Tops, thick set upon a Midrib, interspersed with several small-pointed Leaves. Towards the latter End of May, the Fruits, or Firr-Apples, begin to appear, (i. e. after the Katkins have ripened and shed their Dust) in the same irregular Manner, separately from the Katkins, consisting of several small, oval, thin, Scales, thick set, and spirally placed round a Midrib, tending towards the

the Extremity, closely united, while green, of a cylindrical Form, about three or four Inches long, and about three Quarters of an Inch Diameter, and obtuse at the End. At the Bosom of each of these *Scales*, i. e. at their Exit from the Axis or *Midrib*, are lodged two hard oval Seeds, each endowed with a Wing, whose lower Part involves the *Seed*, and upper Part spreads forth into a thin Membrane, by means of which, when the *Fruit* is ripe, and the *Scales* are open'd, which happens in the following Spring, (for then they usually fall off or shed the *Seed*) it is dispersed by the Wind.

1. The *Silver Firr* has narrow, obtuse, stiff *Leaves*, or rather *Setae*, Bristles, dark green above, with a Depression, lengthwise, in the Middle, about one Inch long, (more or less) and white underneath, (from whence 'tis called the *Silver Firr*) elegantly and regularly disposed, and arising, single on each Side of an Axis or *Midrib*, three, four, or five Inches long, like the Feathers from the *Midrib* of the Quill, or like the Teeth of a Comb, or set like the Leaves of the *Yew-Tree*: its *Cones* proceed indeterminately from the upper Part of the Branch.

2. The *Pitch Firr* has its *Leaves* arising single also, of a lighter Green, smaller, thicker set, not so regularly disposed, but occupying both the Sides and upper Part of the *Midrib*, shorter than the former, and not unlike those of the *Juniper*. The *Apples*, separately from the *Katkins*, arise from the lower Part of the *Branches*, and are shorter. *Caspar Bauhinus* in his *Matthiolus* has the *Abies* with shorter Bristles, or *Leaves*, the *Fruit* arising from the lower Part of the *Branch*, and the *Picea* with the *Leaves* larger, the *Fruit* upon the upper Part of the Branch, and larger. The *Cones* in both turbinated, so that he makes the *Yew leav'd Firr* a *Pitch*; and the *Pitch* a *Yew leav'd Firr Tree*, and both of them to have the *Fruit* of a *Pine Tree*; contrary to what he has in his *Pinax*, where the *Abies alba* is made a *Species* of the *Abies Conis Sursum Spectantibus*, and of course the *Picea* must be *fructu deorsum reflexo*.

II. The *Pine* is a tall strait Tree, like the former; the *Branches* longer and much farther extended, tending upwards, the *Leaves* darker, or more bluish Green. The *Germina*, or *Buds*, have the thin common Membrane with the former, which falls soon off in the Spring; but afterwards every two *Leaves* have a separate Cover, or Sheath; which in *April* or *May* is rent assunder, as the *Leaves* in Pairs stretch out, and are spread forth; a part of which is always to be seen at their Exit. They arise all round the *Midrib*, and not from its upper Part, as in the *Firr-Tree*; they are half round on the outside, and flat on the inside, where they regard each other; the *Branches* arise by Intervals, and in the Circles from the Trunk, as in the *Firr-Trees*; are irregularly Subdivided, but longer, and not so thick set. The *Katkins* are thick, turbinated, surrounding

rounding the Extremities of the Branches, in the Month of *May*, below the *Leaf-buds*, and not Laterally, as in the *Firrs*, each consisting of several small Globules, at first like so many Grains of Pepper; when expanded or blown, there are several Clusters of yellow Summits upon short *Chives* or Threads, surrounded by small round yellowish *Leaves*; when these are ripened, and the Dust disperst, the *Embryons*, or *Fruit-buds* appear, laterally on the Branches, which in time become so many turbinated, or Conical *Apples*, big at the base, somewhat bulg'd in the middle, and terminating in an obtuse extremity, consisting of thick woody Scales, spirally dispos'd round a pretty gross Axis or Midrib; in the Bottom, at the exit of the Scales are plac'd two winged *Nuts*, or *Husks*, each containing a single *Kernel*. The *Scales* are of a shining Brown, each being obliquely cross'd with protuberant Lines, intersecting each other, and forming with their Partners so many Rhombi or Lozenges, like the Panes of a Glass Window.

1. The *manur'd Pine* is a large Tree, with its Branches far spread forth, its Pairs of *Leaves* long and far spread forth from the exit, its *Cones* pretty Large, and its *Kernels*, or *Seeds* soft, near to the bigness of Almonds.

2. The *Mountain Pine* has its *Leaves*, *Katkins* and *Cones* proportionably less; but the *Tree* of the same bigness and *Branches* of the same length; neither the *Scales* of this, nor the former, open or separate of themselves, be they never so ripe.

3. I am much surpriz'd with Mr. Ray, that the *Mountain Pine*, commonly called the *Scotch Firr*, should so far have escap'd the Botanical Enquiries, as not so much as to be mention'd by any before him; Tho' it be the Commonest of all the *Firr-kind* throughout the whole Island of *Britain*, and I have good Reason to believe in *Norway* also; since the White Deals which are Imported from thence, have the same Grain and Appearance in Wood, as the Deals made of the *Scotch Firr*; the *Pitch Tree* being distinguish'd from it by the Name of *Red-wood*. I have Reason to believe also, that it very much abounds near *Boston* in *New England*, being lately inform'd by a Gentleman from thence, that it passes there by the Name of the *Spruce Firr*, and that one Dr. *Douglass*, Physician of *Boston* there, and several other knowing Gentlemen from *Scotland*, Inhabitants of that Place, do affirm it to be the very same which passes under the Name of the *Scots Firr*: I have so much the more Reason to believe this, because I understand their chief Trade consists in the Building of Ships, and in the Exportation of *Masts*, *Pitch* and *Tar*. Mr. Ray also observ'd it in the Mountains of *Stiria*, and once mistook it for the *Pinastrum alterum Hispanicum Clus*: But the straitness of its *Trunk* undeceiv'd him, for no *Firr* grows straiter than this, provided it grow in a Thicket, as I have

have said. As to its particular use in the *Spruce-Beer*, I know not, but that I suppose may be common to all the other of the *Firr* and *Pine* kind, since all of them partake of the same taste, and consist of the same *Resinous* Parts, and indeed I look upon this as one of the most frequent of either. It arises as tall and strait as any of the *Firr* kind, but not so far spread forth, nor the *Branches* so long (tho' tending upward as the other *Pines*) the Pairs of *Leaves* of a blueish green Colour, much shorter than the former. The *Katkins* and *Turbinated Cones* least of all, not much exceeding the Egg of a Lapwing, and being Turbinated near of the same shape. The *Scales* are thick and protuberent. The *Seeds* wing'd, but naked, and not in *Shells* or *Husks*, as the other *Pines*, by which it only differs from the *Firr*. The *Cones* remain a whole Year upon the Tree, and then the *Scales* separate, and they fall off or shed the *Seed*, to prevent which, the *Gardeners* when they save the *Seed*, pull them in the Spring, and spread them upon a Cloath before the Sun, when they open of their own accord.

I'm not yet fully convinc'd, that any of the *Firrs* are Indigenous British Plants, for upon the strictest Enquiry, I could never learn that either the *Pitch*, or *Silver-Firr*, were Indigenous in any part of *Scotland*. It's true Mr. *Sutherland* begins his Catalogue with the *Abies alba seu Femina*, and has marked it with an S, as an Indigenous Scotch Plant; but as he has not mentioned this *Scotch Firr* as a *Pine*, I suspect he has mistaken it for the other. For the *Silver Firr* it matters not much whether it be Indigenous as Dr. *Plot* would have it, or has been planted upon the Rock near *Worton* in *Staffordshire*, as Mr. *Ray* is inclin'd to believe, since it has not been found Indigenous any where else in *Britain* as far as I can learn.

This *Scotch Firr* grows in *Glentannarwood*, a large Forest of a great many Miles in extent, belonging to the Duke of *Gordon*: The Wood of *Glengary*, within a few Miles of the Fortrefs of *Inverlochy*; whence Captain *Young* of that Garrison having farm'd that Wood, told me he Sold a Mast to a *Man of War*, which was Seventy two Foot long, only at two Miles distance from the Sea, where the *Man of War* then lay at an Anchor. There are also large *Firr Woods* in *Brae-Mar*, and in *Athol*, belonging to Mr. *Roberson* of *Stroman*, and in several other Places in the *Highlands* of *Scotland*, where they have *Saw-Mills*, and whence there is a great abundance of *Firr Deals* Transported and Sold in the Markets, in the Neighbouring Low-Country.

Neither the *Firr* nor *Pine Tree* are much used in Physick, tho' it be recommended as a potent *Antiscorbutick*, and very reasonably; its resinous which are its most active Parts, consists of *tenuous*, and *Subtile Particles*, capable to reserate Obstructions, and to attenuate the gross Particles

ticles of the *Blood*, ready to hesitate in the Extremities of the *Capillary Vessels*, and to obtund or blunt by its *viscid* and *oleaginous Particles*, the *Spiculæ*, or sharp Points of those Acrimonious Salts, which are the Cause of that itching, and those *cutaneous Eruptions* to be observ'd in *Scorbutick Persons*. A *Tea* of its *Cime* or *Tops* may be given to good Advantage, every Morning. An infusion of itself, or along with other *Antiscorbutical* Ingredients, may be made either in *Ale* or *Wine*, and drank every Morning, especially in the Spring Season. Its *Tops* may be boil'd in *Wort*, and fermented into *Ale*, and so used for the ordinary Drink in *Scorbutical Cases*. Also in the *Gout*, *Gravel*, or any other Affection of the Body, where the attenuating of too gross a Blood is required, tho' its high *resinous Taste* renders it disagreeable to the Palate of most People.

The *Pine* is fit for the same purposes; its *Kernels* are much esteemed in *Italy*, being look'd upon as more delicious than *Almonds*, and enter into several *Pectoral Compositions*, in the old *London Dispensatory*, such as *Looch e Pino*, *Looch sanans*, &c. But as they are rare in these Parts, and as there are several other as effectual *Pectorals*, they are reasonably omitted, and not now brought into Practice.

The several Products of the *Firr* and *Pine* are of great Use both in *Physick* and *Mechanicks*, viz. The *Rosin*, *Pitch* and *Tar*. The *Rosin* is what flows naturally from the Tree; The *Tar*, or *Pix Liquida* is procured by *Combustion*: The *Pitch* by *Evaporation*. I leave the manner of obtaining them, and the Signs of their Goodness to those that Treat of *Materia Medica*. The *Tar* is esteemed a great *Pectoral*, and has been drank by some for Diseases in the Breast; but as it is Nauseous and Offensive to the *Stomack*, being given in any quantity by itself, they mix *Pulv. Liquiritiæ*, *Ireos*, *flores Sulphuris*, and other *Pectoral Powders* with it, to bring it to a Consistence, and so forming it into *Pills*, they swallow them. The *Pitch* enters some external Compositions, such as *Ung. Basilicon*.

The *Rosine* is procured from the *Firr*, the *Pine*, or the *Larch Tree*; its various Uses in *Mechanicks* are so well known, that I may spare my Travel in enumerating of them; as to its *Medicinal* Uses, wherever an *Emollient*, *discussing*, or *attenuating Linament*, *Ointment*, or *Plaster* is desired, that may be an *Ingredient* in more or less quantity, according to the requisite Consistence for the *Dispensatory Prescriptions*. It enters *Ung. e. Resina. Detergens. Ceratum citrinum. Empl. ex Ammoniaco. de Betonica. Caesaris. Cephalicum. Diachylon magnum. Flos Unguentorum. E. e Gummi Elemi. Melilot. simpl. Oxycroceum, Tonsoris, &c.*

For the Culture of the *Firr* or *Pine-Trees*, I hope the Reader will excuse me, if I propose by way of Digression, what consists with my own Experience, and what may be practised, as affording as much profit as pleasure.

The

The Firrs, Pines, Cypresses, Larches, and all the other resinous Evergreens have been hitherto propagated from the Seed; since being once fell'd, the Root immediately decays, and never sends forth any new Shoots, as most other Trees and even perennial Roots of Herbs do: It will not, I hope, be amiss if I give some Directions about them.

The Practice hitherto has been to transplant the Seedlings (as they are called, *viz.*) such as have naturally sprung forth from the Seeds, accidentally dispers'd, where the old Trees grew. Secondly, by sowing of the *Seeds* in a bed, and by thinning them, and transplanting of them from year to year, according to the Gardner's Pleasure, in Nurseries, fitted for the purpose, until they were so high and so strong as to be fit for the being planted out in open Fields, and resisting the injuries of the Air and Weather. I now propose a more sure and certain Method by which the most barren Grounds may be improved, and a most considerable Advantage in twenty or thirty Years time may be made of the Product of what was formerly of no use whatsoever, *v. g.* Let two, three, four or more *Acres* of the barrenest Ground can be thought of, whether on a Mountain, or in a Valley, (though the Valley is the most to be chosen) be parcelled out in what Form shall be most agreeable: *Ditch* or *Fence* it so that no Beasts may get into the *Inclosure*. Let it remain thus for a year or two; if there be any *Heath*, *Ferns*, or *Whins*, let them be rooted out, that the tender Grass may have room to grow, and by this means, the Earth, which was formerly rough and hard, will now become kindly and soft; if that will not do, let it be frequently plow'd up and fallow'd, as they call it. The Earth thus prepared, and a tender Coat of Grass arising, dig several places at convenient distances, if you please, regularly, by applying the Line about a foot square, work the *Mould* kindly, and strew a few *Firr*, *Birch*, or *Ash Seeds* in each of the Places. Suffer the surrounding Grass to grow, and only remove so many of the Weeds, as would otherwise choak the tender *Plant*. The proper Season is *September*; which will only require a thicker *Coat* of *Earth*, than if you sow them in the Spring; for the *Seeds* of *Trees* are generally of so durable a Nature, that they will not readily be chilled with the Winter's Frost. If you please you may plant *Ashes* conveniently tall, from a Nursery, round the Wall or *Ditch* of the *Inclosure* to guard the young Trees when they grow up. And if there be any moist places, you may stake down some *Osier*, *Sallow*, or *White Poplar-Poles*, which will soon take Root, and become a Fence also to the young Trees. If the Plants arise thick in any of these distant Places, you may thin them by pulling and transplanting the tenderest, suffering the strongest to remain. There is another Method of taking up the young *Firrs*, after the first or second Year, with the *Earth* round the *Root*, and so setting them down in holes made on purpose, without disturbing the *Fibres*; but if it chance

chance to be dry Weather after they are thus planted, before the two *Earths* incorporate, the young *Plant* is in danger [of being *choaked*: This is called planting with the *Clod*, either of these are better than planting them out from the Nursery, when they are two, three, or four feet high; for then their *Tops* are so heavy, that the Wind is ready to shake them, and to loosen their *Root*, by which they are much curb'd in their Growth: But I prefer the first, for though they may not perhaps advance so fast at first, as those in a Nursery, they afterward arise fast enough, and being so high as to shelter one another from the Wind, they will at length become strong, tall Trees, affording sufficient Profit for all the Pains bestowed upon them.

The *Silver* and *Pitch Firrs* were (not many years since) much esteemed for *Ornaments* and *Ever-greens* in *Gardens*: But they soon arising to too great a height, the *Leaves* soon falling off from the lower Branches and Top towards the *Trunk*, and the *Tree* being in several places bald as it were, they are not now so much in use. *Tews*, *Cypresses*, *strip'd Hollies* and upright *Swedish Juniper*, beside *Philarea's* and *Pyracantha's* are prefer'd.

The various *Uses* of the *Firr-wood* for the building of Houses, and for Shipping, also for furnishing of Materials for Artificers, and Mechanicks of all sorts, are so well known, that I need not name them.

III. *Abrotanum Fœmina*.

Abrotanum Fœmina foliis teretibus. C. B. P. 136. *Fœm. vulg.* R. H. 359. *Santolina fol. terret.* Tourn. 460. T. 260. Boerh. 123. *Chama Cyparissus* J. B. 3. 26. 133: *Polium Theophrasti* & *Dioscoridis* & *Arabum Vermiculato fol.* Column p. 154. Lavender-Cotton.

IV. *Tanacetum*.

Tanacetum vulg. Luteum C. B. P. 132. Turnef. 461. Hist. des Plants 366. *Vulg. fl. Luteo* J. B. 3. 26. 131. R. Hist. 365. Boerh. 1. 124. Common *Tansy Variat fol. Crispis (variegatis.)*

V. *Balsamita Mas*.

Tanacetum Hortense fol. & Odore Menthe Tourn. Hort. Lugd. Bat. App. 697. *Balsamita Mas.* Dod. pempt. 295. *Mentha Hortens. Corimbif.* C. B. P. 226. *Corymbif. S. Costus hort.* J. B. 3. 26. 144. Raii Hist. 363. *Balsamita mas* Ger. Emac. 648. Costmary.

VI. *Stachas*

VI. *Stachas Citrina.*

Helichrysum S. *Stachas citrina Angustifolia*. C. B. P. 264. Tourn. Instit. 452. T. 259. Boerh. 1120. H. L. B. 226. *Helichrysum* S. *Chrysocome Angustifolia*. vulg. Moris. Hist. 3. 87. *Stachas citrina* Dod. pempt. 268. *Tenuifolia*. Narbon. J. B. 3. 26. 154. Raij. Hist. 281. Golden Cassidony.

VII. *Gnaphalium Montanum.*

Gnaphalium montanum fl. rotundiore. C. B. P. 263. Mont. *sive pes Cati* Raij Hist. 283. *purpureum et album* Adv. Lob. 202. *album et purpureum*. Tab. 2. 106, 107. *Elichrysium* Mont. *fl. rotund.* Tournef. Instit. 453. Boerh. 120. Hist. des Plan. 436. *Chrysocome humilis mont. fl. rotund.* Moris Hist. 3. 89. *Pilosella quibusdam aliis Gnaphalij genus*. J. B. 3. 26. 162. Mountain or Catsfoot Cudweed.

Their *T R I B E.*

I have joyn'd all the *Corymbiferous* Plants, of this Catalogue, with a *naked Flower*, and a *determinate Stalk*, together. What the Word *CORYMBUS* may mean, how it became a *Botanical Term of Art*, why these *Plants* are called *Corymbiferae*, these are yet undecided Questions. Scaliger says, the first Notice taken $\tau\tilde{\varsigma}$ $\kappa\omicron\epsilon\upsilon\mu\beta\tilde{\epsilon}\varsigma$ was from an Hood the ancient *Atticks* wore, so called. Pliny says, the *Clusters* of the *Ivy-Berries*, were said to be disposed in *Corymbum*. *CORYMBUS* is now called an *Orbicular Form* of the *Flower* and *Fruit*, whose *Seeds* have no *Pappo* or *Down*. Mr. Ray says, it is a *discoïd compound Flower*. This *Disk* or *Discus* is composed of a great many small *Flourishes* closely united so as to make one for the most part flat, but sometimes protuberant Surface, and contain'd within one common *Calix* or *Empalement*: Each of these *Flowers* or *Flourishes* are small hollow *Tubes*, placed upon the *Embryon*, or *Rudiment* of one single *Seed*, with the *Pistillum* or *Pointal* in the Middle, arising from the Top of the *Embryon*, and often *bifid* or *forked* at the upper End, and afterwards reflexed, loaded with a small fine *Dust*. This *Pointal* is surrounded by five *Capillamenta* or *Thrumbs* arising separately from the inner Surface of the *Flourish*, and united at the upper Part, forming a *Vagina*, or *Sheath*. The upper part of the *Flourish* is spread forth and divided into five equal, sharp-pointed *Segments*; all these together are surrounded with one common (and for the most part scaly) *Empalement*, and after the *Flower* is decayed, there succeeds one small solid *Seed*, without a *Pappo* or *Down* to each single *Flourish*. These by Dr. Tournefort are called *flosculous Flowers*, well expressed

sed in his Tab. 251. These *Corymbiferous Flowers* are *naked*; i. e. when they have no *Half Flourishes* furrounding them, or *Radiate* when furround-
ed by *Half Flourishes*, whereof hereafter. Tournefort says the *Allium* and
Cepa have their *Flowers* disposed in *Corymbum*; but according to all other
Authors they are not of the *Corymbiferous Tribe*.

The Difference.

Abrotanum Fœmina has a *solitary Flower*; i. e. one *single Flower* upon the
Top of a *determinate Stalk*.

Tanacetum and *Balsamita Mas* have the *Flowers* in *Umbells* or *Clusters*, upon
the Top of a *determinate Stalk*.

Stæchas citrina and *Guaphalium montanum*, or *pes cati* have *shining scaly*
Empalements; the one indeed has the *Flowers* in *Clusters*; and the other
has them upon *solitary Foot-Stalks*; but since Tournefort and Boerhave make
it an *Elichrysum*, I have joyn'd both together.

The Description.

III. *Abrotanum Fœmina* has a hard, durable *Root*, divided into several *Fi-
brous Branches*, like the other *under Shrubs*, bushy and sending forth several
small, round, freight, hoary, brittle *Stalks*, herby the first Year, but
woody thereafter; adorned with small, alternate, hoary *Midribs*, from a
short *Foot-Stalk* beset with very short, small, round, hoary *Leaves* like
the *Erica Brabantica Fol. quaterno*. The *flow'ring Stalks* arise *naked* from
the Middle upward, each supporting one pretty large *naked yellow*
Flower, with an *Hemispherical*, or half round *scaly Empalement*; to which
succeed long small *solid Seeds*. This bushy Plant continues several Years;
seldom ariseth to above a Foot high; but sometimes when of several
Years standing, it may arise to above two Foot; the *flowering Stalks* decay
after perfecting the Seed, but new Sprigs are always push'd forth, and the
Habit of the Plant is green all the Winter: It's propagated by the *Slip*,
Flowers in July and August, is only cultivated in *Gardens*, where being
train'd up, it makes an agreeable low Hedge on a Border. It has an agree-
able, bitterish, aromatick, somewhat styptick Taste, and pleasant, not very
fragrant Smell.

IV. *Tanacetum* or *Tansy*, has a fibrous, hard, running *Root*, tall,
freight Salk, about two or three Foot high, dark green, *pennate Leaves*,
i. e. consisting of several Pairs of *Leaves* joyn'd to a *Midrib*, with an odd
one at the Extremity; all of these Pairs are deeper, or more superfi-
cially cut into their proper *Midrib*, ending obtuse or blunt, arising alter-
nately from the *flow'ring Stem*, which carries on the Top several pretty
large

large, flat, yellow Flowers, each upon a small Foot Stalk, and dispos'd into Tufts or Umbells, with an Hemispherical scaly Empalement, to which succeed several small solid Seeds. It flowers in July and August, has a strong Scent, and Wormwood Smell, with a peculiar bitter Taste: That kind which has larger Pinna arising from the Midrib, and only serrated, or indented like the Teeth of a Saw, at the Edges, grows wild upon Road Sides and Borders of Fields; but the other Species called the curled or crisped Tansy, where the Segments are finely divided and cut to the Center, and the Silver or Variegated Tansy are Garden Plants.

V. *Balsamita Mas*, or Costmary, has a running Root, streight Stalk of the same Height with the former, alternate Leaves, undivided, but notch'd or indented round the Edges, of a light green, the Flowers in Tufts, not so large; the Smell and Taste not unlike to Mint, which made Cordus, and several others of the old Authors, with Caspar Bauhinus, place it along with the Mints. Herman, in the Appendix to his Catalogue, seems to be the first who placed it among the Tanaceta, for he wrote before Dr. Plukenet, from whom Volkhamer quotes it by the Name of *Tanacetum hortens. Foliis serratis Ageratum intense redoleus.*

VI. *Stachas Citrina*, or Golden Cassidony, is in Appearance at first View not unlike the Lavender Cotton, with which it seems to agree in the woody, durable, fibrous Root; Stature, Colour, and Bushiness of the Plant, tho' more bleuish. The Leaves long and narrow, sharp-pointed, and somewhat hoary underneath, the flow'ring Stem arises a Foot high, bearing on the Top a Cluster of small yellow Flowers, within an Oblong, scaly, shining Empalement. It's not flow'ring Stalks arise thick in the Spring, continue fresh and bushy all the Winter; the flow'ring Stalk usually decays when the Flower is gone, and the small long Seeds have ripen'd. This Plant has an agreeable fragrant Smell, and pleasant aromatick Taste; it flowers in July and August, and is only cultivated in Gardens.

VII. *Mountain*, or Catsfoot Cudweed, is a low creeping Plant, growing in Heaths and barren Places, with small hairy Leaves, some oval, others more pointed, white below, and dark green above. Flow'ring Stalks, or rather Foot Stalks, arising one, two, or three Inches high, round, hairy and white, each supporting one white, reddish or party-coloured Flower, about the Bigness of that of Lavender Cotton, with an Hemispherical, silver, shining, scaly Empalement, some of the Flowers are radiate, with several thin set, roundish Half-Flourishes, others more compact and naked. Dr. Dillenius believes, the radiate are male, and the naked female Flowers. I have often observ'd this Variety in the Texture of their Flowers, but suppose neither of them perfect the Seed, since it creeps very much along the Surface of the Ground, and few such produce much Seed. It flowers most of the Summer, and is seldom cultivated in Gardens.

The *Virtues* and *Uses*.

1. *Lavender Cotton* is but seldom used in Shop-Preparations ; it's much commended for killing of *Worms*. The dry'd Powder of the *Flowers* may be given along with the *Sem. Santonicum* or the *Herb* may be boil'd in Milk, and given to Drink. Its *Taste* and *Smell* renders it more agreeable for internal Use than the *Abrotanum Mas.* It consists of *tenuous* and *subtile Particles*, tho' not very *volatile*, by which it may be effectually prescrib'd in *discutient Fomentations*, and *Cataplasms*, and in *Semicupiums* for the hot *Bathing*.

2. The Powder of dry'd *Tansy Flowers* or *Seed* may be effectually given in *Worm-Powders* : The *Leaves* bruised in the Spring may be given in small *Balls* with *Butter* to *Children* for *Worms*. An *Ointment* may be made with its green *Leaves*, contus'd with *Wormwood* and *Camomile*, and other *discutient* and *strengthening Herbs*, and boil'd with fresh *Butter* for the weak *Joynts* of *Rickety Children*. A *Lotion* of the dry'd *Flowers* is recommended for old and maggoty *Ulcers*. It's esteem'd a good *Hydropick* and *Diuretick*. A *Cataplasme* may be apply'd to the *Navel* for *Worms*, of dry'd *Tansy Flowers*, and *Wormseed*, with *Colycinth Seeds* and an *Ox Gall*. They eat *Tansy Cakes* in the Spring made of Milk Flower and Eggs, with the tender *Buds* of *Tansy Leaves*.

3. *Costmary* is not much used in *Physick*, but it's esteem'd in *Broaths*, as a *Pot-Herb*, to strengthen the *Stomach*, and expel the *Wind*, being not of so high a *Taste* as *Mint*, nor so bitter as *Tansy*.

4. *Golden Cassedony* is a good *Aromatick*, and fit for all the aforesaid *Uses* ; it attenuates and reaserates *Obstructions*, is good in *Nervine Affections*, externally it may be used in *discutient Fomentations*. It may be made use of promiscuously with *Lavender Cotton*, but is seldom prescribed in *Physick*.

Some mention the *Gnaphalium Herba impia dictum* for the *Dispensatory Plant*, but since ordinary Practice has introduced this *Mountain Cudweed*, as a noted *Pectoral* ; and both *Rhenodius* and *Schroder* recommend the single and compound *Syrup* of *Cats-foot Cudweed*, for *Diseases* in the *Breast* ; and since I have effectually used it along with the *Pulv. Musci pyxidati* in the *Chin-Cough* to *Children*, I rather chuse to mention it than the other ; for it seems to have some of its Properties, (*viz.*) drying scabrous and absorbent Particles mixed with a certain *Astringency*, by which it may restore the ruminating Faculty in *Beasts*, by restricting the too much relaxed Pores, in their salivatory Vessels, and thereby curbing too great an *Efflux* of serous Humours, which may hinder the chewing of their *Cud*, or *Food* a second time : For as too much Drink on the one Hand may spoil

spoil our hungry Appetite, so too much Want of Moisture on the other may hinder a due Mastication, render the Deglutition uneasy, and stop the Digestion; for if the Moisture is in too great a Quantity, the grosser Parts are too far separated, to be well grinded (as it were) by the Teeth; they are too soon conveyed off by the *Æsophagus* to be digested in the Stomach, the saline Parts there are too much divided to act vigorously in a further Comminution and Attrition of the masticated Mass, and the Return of the Food to be attenuated and divided by the Teeth a second time: But if there is a due Separation of the Fluids from the salivatory Vessels in the Mouth and Glands in the *Æsophagus*, then all these Functions are duly perform'd, (*viz.*) The Aliments are sufficiently masticated for the first time, and conveyed to the Stomach; and after being fully prepared there by the Help of the same Moisture, they are masticated a second time, to give Way to the Percolation of the Chyle, in the Passage of the digested Mass, from the Stomach to the Intestines. So that if the Want of Moisture hinders the Digestion on the one hand, because the Salts are not well diluted (*for Salia non saliant nisi in Fluido*) so too much Moisture weakens it on the other, and stops a second Preparation of the Aliments, by its not returning to be ruminated and chew'd.

VIII. *Abrotanum Mas.*

Abrotanum Mas. Angustifol. Maj. C. B. P. 136. vulgare J. B. 3. 26. 192. Hist. Oxon. 3. 11. R. H. 371. Tournef. 459. Common Sutherlandwood.

IX. *Dracunculus.*

Abrotanum Lini fol. acriori & odorato Tournef. Dracunculus hort. C. B. P. 98. Hort. sive Tarchan. J. B. 3. 26. 148. Draco Herba. Dod. pempt. 709. Hist. Oxon. 3. 3. Raij Hist. 378. Tarragon.

X. *Absynthium Ponticum.*

1. *Absynthium Ponticum. S. Romanum. officinarum S. Dioscoridis. C. B. P. 138. vulg. Dod. pempt. 23. vulg. Maj. J. B. 3. 26. 168. Tournef. 457. T. 260. R. H. 366. Hist. Oxon. 3. 7. Common broad-leaved Wormwood.*

2. *Absynthium Ponticum tenuifolium incanum. C. B. Tourn. Ponticum vulgare folio inferius albo. J. B. 175. Tenuifol. Ponticum Galeni Ger. emaculat. 1096. Ponticum sive Romanum incanum vulg. Park 98. R. H. Hist. Oxon. Narrow Leaved Roman Wormwood.*

The *TRIBE*.

The *Corymbiferous Plants*, with an *indeterminate Stalk*, come next to be considered, (*viz.*) such as have their *Flowers* disposed in a long Row or *Spike* upon the upper Part of the *Stalk* and *Branches*, which may be divided in several Respects, (*viz.*) 1. According to the *Figure* of the *Flower*. 2. According to the *Division* and *Fashion* of the *Leaf*; and, 3dly, according to the *Taste* and *Smell*. Thus I have joyn'd *Abrotanum Mas*, *Dracunculus*, and the two *Absynthium Ponticum*s together, because all of them have a *yellow pendulous Flower*, and an *Hemispherical Empalement*.

The *Description*.

VIII. *Common Sutherland* has a *woody fibrous Root*, thick set, *dark green*, *streight*, *woody Stalks* arising to two or three, and sometimes to four or five Foot high, *branched* at the *Top*; *alternate* deeply divided *compound Leaves* (upon small narrow *Foot Stalks*, one Inch broad at the base, and as much long tapering and ending blunt) thin set, small, narrow *Segments*, small, numerous, *pendulous Flowers*, with an *Hemispherical Empalement*, in a long Row upon the upper Part of the *Stalk* and *Branches*. This *shrubby Plant* endures ever green for several Winters, is spent so much in the Wood, that it seldom flowers, has an high disagreeable *Smell*, and peculiar *bitter Taste*; grows in Gardens; flowers in *August* and *September*, and the *Seeds* seldom ripening, it is propagated by the *Slip* or *Root*.

IX. *Taragon* or *Tarchon* is a *woody Plant* also, its *Branches* not so *streight*, but more spread forth, seldom above one Foot high; *alternate*, *dark green*, *stiff*, *oblong*, *simple Leaves*, like *Hyssop*, but more pointed; numerous small *pendulous Flowers* like the former. The *Stalks* and *Leaves* often fade in the *Winter*, but the *Root* is *perennial*, grows in Gardens, and is propagated by the *Root*.

X. *Common Wormwood* has a *hard*, *fibrous durable Root*; is frequently a *bushy*, *branched Plant*, arising about two or three Foot high, its bottom *Leaves* upon long *Foot Stalks*, *Compound*, divided into four or five Pair of *Segments*, joyn'd to a *Midrib*, with an odd one, the *Segments* upon each Pair for the most part triply divided, still with an *Impair*, broad, and ending blunt. The *Leaves* of all the *Wormwoods* are for the most part broad at the base, and tapering towards the *Extremity*, all the *Segments* ending blunt. The *Stalks* of this Plant are filled with a *Pith*, or *Marrow*, and not *woody*. The *Flowers* thick placed upon the *Stalk* and *Branches*, *yellow*, *pendulous*, and larger than

than any of the two former : It flowers in *August* and *September* ; the flowering Stems perish yearly ; the Root is perennial and bottom Leaves green all Winter. It grows plentifully upon most of the low Sea Coasts, especially in *Holland* in *Lincolnshire*, where 'tis almost every where to be seen along the Sides of the Ways. It grows also upon craggy, rocky, and stony Ground : I have seen it grow plentifully at the Foot of a Rock, on a pretty high Hill in *Scotland*, called the Crag of *Stenton*, within two Miles of *Dunkeld*, *Perthshire*, at a great Distance from the Sea.

4. The true *Roman Wormwood* is a small bushy Plant, with a very running fibrous Root, a great many straight Stalks not much branched, surrounded with several small compound Leaves, grayish above, and whiter below, divided into thick, short, small Segments ; the Flowers grow thick upon the upper Part of the Stalk, smaller than the former, pendulous, of the same Shape and Colour. The whole Plant does not arise much above one Foot high, of a *Wormwood* Taste and Smell, but more aromatick ; the Surface decays yearly, but the durable Root spreading superficially under Ground, sends forth its tender Buds next Spring. It flowers in *August* and *September*, and is cultivated in the Gardens.

These two are the true *Pontick* or *Roman Wormwoods* in the Shops, but since Use has introduced the *Sea Wormwoods* to supply the Place of the latter, I am obliged to launch out into the Ocean of a vast Variety of them, which daily subject themselves to my View, if I move but a Stone's Throw from any Part of the Town of *Boston*, where I live, especially by the Sides of the *River Witham*, which runs through this Town, and on the Sea-Banks.

To pass by them in Silence, or comprehend them under the general Name of *Absynthium Marinum Album* (*Seriphium Anglicum, Scoticum, Belgicum, Gallicum, Norbonense, &c.*) would be an Effect of the greatest Ignorance or Neglect. Ignorance in not knowing how to distinguish one Species from another, and Neglect in concealing from the Publick a great Variety of Species of the same Genus, when they may be truly look'd upon as such. I am far from the Thought, that the Species of Plants ought to be unnecessarily multiply'd ; I am of the Opinion to do, so would be to bring *Botany* into Confusion, and to render the Knowledge of Plants (so very diverting and delightful) toilsome and burdensome to the Memory. The celebrated Dr. *Herman*, after he has enumerated a vast Variety of the *Aquilegia, Auricula, Ursi, Caryophyllj, Tulips, &c.* He concludes, *Ejusdem plurime varietates, Variæ differentie, vario e satu educate, Cultorum industria.* Intimating that the vast Varieties of Flowers, to be observ'd in the Gardens of Florists, are not real Species, but what may be produced from one and the same Seed, by the Culture, Art and Mystery

of the Gardiners, (tho' the Reverend Mr. Lawrence, who has writ as much in Gardening as became his Station and Character, in his *Calendarium Hortense*, would have us believe they have none) These may justly be called *Sporters* or *Strollers*, so many *Lusus Naturæ* sporting themselves from more simple Colours, and a lesser Number of the *Petals* or *Flower-Leaves* into a greater *Elegancy* and Variety of Colours, and *Stripes*, and a greater Multiplicity of *Flower-Leaves*; by which they become from single to bear a double and double double (*Flore duplici & pleno*) Flower; and then by Neglect in Culture and Management they degenerate into their former Simplicity, in Colour and Singleness in Number of the *Petals*. These are by no Means to be esteemed Species, for a common *Tetrapetalous Poppy*, whether *Hortense* or *Erraticum*, these are only two Species in the *Botanick Way*; since all the other are only *Sportlings* from them, and daily Experience tells us, they do degenerate to them by Carelessness and Neglect in preserving the Seed. But when two or three of the most immutable Parts agree together in one Plant, and these do neither vary nor change in their Nature, Soil, nor by Culture. These undoubtedly may be esteemed different Species of the same Genus. For the better understanding of this, it is fit I explain what is meant by Genus, Species, Characteristick and distinctive Note.

The *Genus* of a Plant consists in the Concurrence of two or three of its most constant and immutable Parts; these are called its *Characters* or *Characteristick Notes*; and wheresoever these are observed to agree together, all the Plants so *Characterised* are of the same Genus.

A *Species* is, when notwithstanding these concurrent Characteristicks, there be several other Circumstances, by which each Species of the same Genus is distinguished, and these are called the *Distinctive Notes* for an Example.

The *Characteristick Notes* of *Wormwood* are, that it's a *Corymbiferous Plant*, with an *indeterminate Stalk*, and a *naked Flower*; and because in this it agrees with an *Abrotanum* or an *Artemisia*, which in this Case may be called its *Congeners*; the special Manner in the Division of its *Compound Leaf*, its peculiar Taste and Smell, distinguishes it from them.

The *Specifick Difference* betwixt the *Pontick* and the *Sea Wormwood*, is, that the one has *Hemispherical Empalements*, and the other *oblong ones*: And now it's Time we're come to enumerate the various Species of the *Sea-Wormwood* from proper Observations. Tho' to enumerate all I have examined, and which do not vary from one Season to another, nor by being transplanted from their natural Soil to the Gardens; and to describe them as they ought, would be to write a Volume; and to take the Figures according to their several Appearances, would amount

to more Charges than most would willingly bestow. I shall begin with the Scots Sea-Wormwood, described by Mr. Ray, from what Dr. Charles Preston, an Eminent Scots Botanist, communicated to him, and rest contented with giving a general Idea of the Characters of all the rest.

3 *Absynthium Marinum*.

Absynthium Maritimum nostras D. Preston. Raij Suppl. 231.

Absynthium Maritimum album Stoticum Supinum Saxatile nobis. Scots Sea-Wormwood.

It has a creeping, fibrous, running Root, small Stalks, about one Foot long (spread forth and lying on the Ground.) Compound Leaves, divided into (long) small, fine, narrow Segments. Oblong (upright, thick-set) yellow Flowers, upon the Stalks and Branches : Scaly Impalements like the *Elichrysum*, or *Artemisia*.

It may be objected, that by these my Epithets, I have profer'd a Description instead of the Title of the Plant : Its (*Maritimum*) because its natural Soil is on the Sea Coast ; and here it will not be amiss once for all to establish the Distinction betwixt *Marinum* and *Maritimum*, as well as *Aquaticum* and *Aquatile*. *Marinum* is what actually grows on the Sea, as the *Alga*, *Fuci*, &c. *Maritimum* is what grows on the Sea Coast, and either delights in such a Soil, as it may be refreshed by the Sea Air, or the Ground on which it grows may somewhat partake of the Sea Salt : Or, 3dly, can live tho' ev'n wash'd or drowned by a Tide, in the Sea Water. Just so *Aquaticum* is what grows in the Rivers, Lakes, Ditches and Drains, for which they are said to be *Fluviales*, *Lacustres*, &c. Such as the *Potamogetons*, *Millefol. aquat.* &c. But the *Aquatiles* are such as can either grow in or without the Water, as the *Plantago aquat.* &c. (*album*) from the Appearance of the whole Plant, which is almost common to all the English Sea-Wormwoods. (*Stoticum*) in Contradistinction to the English Wormwood. (*Saxatile*) because where both Dr. Preston and my self have seen it grow naturally, is betwixt the Clefts of a low Sea Rock at Fife Ness, near to Crail, in the East Waist of the County of Fife in Scotland. (*Supinum*) I have seen it often transplanted in Gardens where 'tis always low spread upon the Ground, tho' the Fibres of its Root does not run so much as the true Roman Wormwood. I may add Dr. Preston's Epithet *nostras*, since by what I can find it neither grows on the Sea Coasts in Kent, Essex, Lincoln, nor Norfolk about Yarmouth, where I have observed the other Sea-Wormwoods.

I design'd to have bestow'd as much Time and Labour in enumerating and describing, as I have done in examining of the many Sea-Wormwoods, which grow in and about this Place, ascribing to each his Name and

Epithet : But I consider to do that will be more curious, than instructive, and extrinsick from my Design, which is only to treat of such *Plants*, as are useful in *Physick* : For tho' these be so many different *Species* in a *Botanical*, yet they are but one and the same in a *Physical* Way, since all partake of the same *Virtues*, and may be promiscuously made use of. I shall therefore rest contented with the giving of a general List of their *Characters*, of which two or three or more concur in most of the several *Species*, by which they are easily distinguishable from each other. Leaving the connecting of them to some other expert *Botanist*, who thereby may soon determine the *Species*.

Sea-Wormwoods may be examined, 1st, in respect of their *Colour*. 2^{dly}, Their *Segments*. 3^{dly}, Their *Stature*. 4^{thly}, Their *Situation* and *Disposition* of their *Branches* ; and, 5^{thly}, the *Disposition*, *Figure* and *Colour* of their *Empalements* and *Flowers*.

1. In Regard of their *Colour*, in so far as concerns the *Habit* of the *Plant* : They are white, gray-white, Blewish-white, greenish-white. 2. Gray, Dark-Gray, Blew-Gray, Greenish-Gray. 3. Dark-Coloured, Blewish-Dark, Greenish-Dark. 4. Cassious or Blewish; Whitish-Blew (N. B. Blewish-White is when the *White* predominates, and *Whitish-Blew* when the *Blew* excels) Blewish-Green. 5. Green, Pale-Green, Dark-Green, there may be added a Sixth (*viz.* Green Bottom Leaves with Grayish-white and Blewish-white Tops ; for as we see in most of the *Garden Clarys*, no sooner do they emit the flowering Stem, than it changes the Colour into that of its Flowers : So here the *Spike* and *Flowers* often vary from the Colour of the bottom Leaves.

2. Their *Segments* are first thick set, or more compact ; Secondly, thin set, or more dispersed : Thirdly, thick, short and somewhat broad : Fourthly, Long, narrow, and more stretcht forth : Fifthly, Erect or upright : Sixthly, joyn'd to a *Midrib* upon the *Stalk*, as well as at the *Root*, or arising from the *Stalk* without *Midribs*. N. B. The *Bottom Leaves* generally consist of five Pair of *Segments*, and an *impare* ; and 'tis according to the Subdivisions of these *Segments* that their Difference consists, i. e. whether thick or thin, broad or narrow, long or short. The *Bottom Leaves* also vary in their *Figure*, for some are broad at the base, and taper towards the other End, always ending blunt : Some are more bulg'd out about the Middle, and others Cylindrical, being somewhat narrower than the other two, but of an equal Breadth from the Base to the Extremity ; and, as I have before observ'd, for the most part from one Inch to an Inch and a half long, and from an Inch, to half an Inch broad, that the principal Difference betwixt the *Wormwoods* and *Mugwort*, seems to consist in the *Segments* of the *Wormwood*, ending blunt, and those of the *Mugworts* pointed.

3. Their

3. Their *Stature*.: Most of them do not exceed one *Foot*; but some of them are not half a *Foot*; and a third kind I may justly call *Dwarf*, or *Chama-Absynthia*, since by what I have seen, its flow'ring Stem does not exceed three or four Inches; and tho' it grow higher in the *Gardens*, yet it is still proportionably lower than the rest.

4. The *Situation* and *Disposition* of their *Stalks* and *Branches*, some arise unbranch'd from the *Root*; or the *Stalk* is divided into several *Branches* very near the *Ground*, the upper Part being *Thick set* with short flow'ring *Spikes*.: Secondly, branch'd from the *Middle* of the *Stalk* upwards, and very bushy like the *Abrotanum Femina*, but of a low *Stature*.: Thirdly, branch'd, upright, closely accompanying the streight *Stalk*, except where the flow'ring *Spikes* spread them forth; these are generally speaking tall, the *Segments* long and upright. Fourthly, branch'd outwards, or spread forth. Fifthly, Thinner, spread forth, and bending downwards; these are for the most part long and small, have the *Flowers* thin set and pendulous. Sixthly, The *Stalks* are sometimes striated and marrowy like the common *Wormwoods*; but for the most part woody, tho' the Surface decays yearly, especially the flow'ring *Stems*.

5. Their *Flowers* are of various *Figures* and *Colours*, tho' all of them manifestly differ from the *Abrotanum Mas* and *Absynthium Ponticum*. They are, first, turgid; secondly, conical; thirdly, more globular; fourthly, oblong, with the *Empalements* for the most part so contracted, that but few of the *Flourishes* appear without; so that I have good Reason to believe that they seldom perfect the *Seed*; for they emit so many *Stalks* and *Branches*, and those support so great a Load of *Flowers*, that the Nourishment being chiefly spent in the *Flower-Buds* and *Flowers*, the Surface decays before the *Seed* is ripe. Fifthly, as to their *Disposition* they are either separately thick set, or thick set in *Clusters*; they are thin set and upright, or either thick or thin set, and pendulous. The *Colour* of their small *Flourishes* are of a deeper, or paler yellow, some Limon or Orange colour'd, some purplish, and others redish; but besides that, they are seldom fully opened, they are so very small as scarcely to be discerned by the naked Eye, and are rather apices or summits containing so much Dust as is sufficient to impregnate the subjacent *Embryons*, or ova Eggs, as *Malpighi*, and after him the celebrated *Boerhave* terms them, than regular *Flourishes*, as is observ'd by the accurate *Tournefort* in the *Artemisia*. There are indeed some *Species* which produce the *Flourishes* in Abundance; but in such I observe, that the Plant is strong, and the *Stalk* thick and marrowy, fit to convey and distribute Nourishment sufficient to perfect the *Flowers*, and even to ripen the *Seed*. The *Empalements* are for the most part of the same Colour, with the rest of the *Habit* of the Plant, whether white, gray or blewish;

but

but in some they vary and imitate the *Elichrysums*. The *Green* will sometimes produce *yellow* or *Gold*, *shining Empalements*, and the *Gray* will have silver *shining* ones.

There are several other inexpressible Circumstances, which tho' they do not amount to material distinctive Notes, yet they are good Concomitants to constitute a Species, as a peculiar Smell; some having a vehement Scent as if it were *fetid*, partaking sometimes more or less of the *Wormwood*, or more or less of the *Suthernwood*; others wholly *Wormwood*. A peculiar Taste, for the most part more *aromatick* than the *common Wormwood*, and rather like the true *Roman Wormwood*, accompanied sometimes with a *Wormwood*, and sometimes with a *Suthernwood Taste*, and some are *Fatuous*, as it were insipid, partaking of neither; nor are there wanting these which resemble the *Mugwort* in Taste, Smell and Fashion of the Flower, and Empalement; seldom in the Colour, but never in the Segments.

In a Word, there is such a Variety of them, they grow so promiscuously, the fore-named Notes are so variously combin'd, that tho' as I again assert, each of these Combinations compose so many real immutable Species; that's to say, whose Notes will not in the least vary as in *Flowers*, that to describe them distinctly, would be the Effect of very great Pains and most exact Observation; and be attended with more Charges, than a private Purse can bestow upon such a Work; this very Season I have collected the Specimens of no less than Eighteen from the *Goals*, all along the Sea Banks towards *Wibberton*, fifteen different from the West Side of the River *Witham*, over-against *Boston Church*, and so Northward, and ten more different from these Northward, from the Church on the East Side of the same River; in all which some two or three or more of these Notes usually concur, and which when green and new pull'd are plainly distinguishable, tho' the collapsing of the Flowers, the Crumbling of the Leaves, and the Fading of the Colour, makes the dried Specimens less discernable; and I am convinced to take the Draughts from fair fresh Specimens, would make their true Figures in Copper-Plates plainly appear to be so many different Species. So that I cannot escape the observing, that the various Combinations of these Notes, so as to make up the several Species, much resembles the Conjunction of the Letters in the *Alphabet*, which serve to make up so many different Words, or the Changes in a Chime of Bells, where Eight or Ten Notes can make up such an infinite Variety of Sounds in the ringing a Peel. I have only further to add, that the constant Observation of three following Seasons, the transplanting of such as I look'd upon to be most variable to my Garden, and the finding of them still to have the same Appearance, beside
the

the natural Immutability of the Notes mentioned, which may be soon made out from their Unchangeableness in other Plants, are certain Convictions to me, that they are so many determinate Species, tho' the fixed Number has not yet been computed.

For what concerns the *Chama-Absynthium* or Dwarf Wormwood, I was of Opinion it's low Stature might alter by Culture, or that it might proceed from some barren Spots of Ground, where I have seen it grow; but as I have observed it on the Sea-Banks between *Boston* and *Wibberton*, and from the South End of *Boston* by the River Side toward *Shirbeck Church*, on the Sea-Side towards *Frieston*, and on the *Fossedike-Wash* Side toward *Holbeach*, all in *Holland* in *Lincolnshire*, with the same Appearance; and that tho' in my Garden its Leaves were larger, the Segments more dispers'd, and the Spike arose higher, yet it still continued its dwarfish Stature in Proportion to the other cultivated *Absynthia*. I take the Freedom to establish it a particular Species.

It's a low creeping small Plant with its Leaves thick spread along the Ground, very small, with very short, thick-set Segments, like the *Chamomile*, but of a different Colour, rarely pushes forth any flowering Stems, which are thick, not above two or three Inches high, with short Spikes, and proportionably large, thick-set, upright, yellow Flowers: There is one Species Pale-green, and another Gray-white, soon distinguishable by the Beholder, and from sepeparate Roots.

Tho' my proper Observation makes me mention these as from *Boston*, yet I doubt not some or other of these Species may be observed throughout most of the English Sea Coasts, where the Sea Wormwoods grow; I saw betwixt *Yarmouth* and *Golstone* a tall Blewish Sea Wormwood, with upright Stalks, and Branches, and long Segments, pretty large upright Flowers, and another Gray-white one; Branches more spread forth, Stature lower, thick set, large, upright, yellow Flowers. I have seen several kinds of Wormwoods towards the Sea Coasts near to *Burnham* in *Essex*, and have observed a great Variety of dry'd Specimens of Sea Wormwoods in *Stocks-Market* in *London*, but as I had not then so particularly apply'd my self to examine them, I leave that now to the Curious, not doubting but the Hints I have given concerning that numerous Tribe will serve as suitable Directions to a further Enquiry in the examining of them. Upon which Account I have enlarged more upon these than is perhaps answerable to my Design, my chief Desire being to stir up others to the like Improvement, in which I have first paved the Way.

I have also observed what may be called different Species of the *Absynthium Latifolium*, such as were obtuse and more pointed Segments, whiter, more gray, more blewish and darker green Stalks and Leaves, with more or less numerous Flowers, Shape and Bigness. These are only Varieties,

and do not amount to different Species, since the Disposition and Fashion of the Flower never alters.

Virtues and Uses of the Suthernwood and Wormwoods.

All these consist of *tenuious* and *subtle Particles*, are powerful *Attenuaters*, *discutient*, *Reseraters* of *Obstructions*, as well *internally* given, as *externally* apply'd.

Suthernwood by the Unpleasantness of its Smell and disagreeable Taste is not much used. It's a potent Vermifuge, and may be inwardly given along with fresh *Rue-Leaves*, mixed with fresh Butter, form'd into small Balls, to be swallowed by Children for the *Worms*; but for any other internal Use, as is observed, the *Lavender Cotton* is to be preferred. *Externally* it may be apply'd in *Fomentations* and *Cataplasms*. It may also be mixed in the Cataplasm made with an *Ox Gall*, *Tansy*, &c. and apply'd to the *Navel* for Worms. They use it especially in hot Weather to strow in Rooms, where is a dead *Corpse*, or lay it upon the *Coffin*, for its predominant strong Smell.

Taragon, which I have joyn'd with the *Suthernwood*, has a pleasant, hot, aromatick Taste, and tho' but of small Use in *Physick*, yet its *Leaves* may be very well eat with fresh Butter, in the Spring, as they do *Sage*, for a *Stomachick*; or in a Sallad, along with *Purslin*, and other esteemed cold Sallads, which is very much used in *Holland* and *Flanders*. It may be also apply'd externally in *discutient Fomentations*, &c.

Wormwood is a Plant of the greatest Use of many in *Physick*; it's a potent *Vermifuge*, *febrifuge*, *stomachick*, *Antiscorbutick*, &c. In a Word, there is no Case nor Disease which proceeds from too gross a Blood, or from *Obstructions* in any of the *Capillaries*, but as an *Attenuater* it may be effectual in *reserating* of them. It's a most powerful *Stomachick*, by cutting and dividing that tough and viscid *Phlegm*, which obduces the inner Surface of the *Stomach*; and obtunds the *subtle Particles* in the *Saliva*, separated by the Glands in the *Stomach*; which acts upon its nervous Coat, and stirs up the *Appetite*. Its most active Principle is a great Quantity of *fix'd Salt*, by which it corrects too great an *Acidity* or *Acrimony* in the Blood, which may be one of the principal Causes of those *intermittent Fevers*, and *Agues*, so very *epidemical* in low and maritime Places. It's likewise by the Activity of these *saline Parts* that it dissolves the tender Texture of the small Maggots, with which the Intestines of Children are so much afflicted, before their *Stomachs* are so strong as to concoct and digest their Food, and the *Ova* of Insects conveyed along with it. Tho' it may seem to have but few *volatile Parts*, because scarce discernable by the Ascent in Distillation, yet this Virtue may proceed from

from a certain Combination of its more Earthy and Saline Parts together, from whence the excessive Bitterness is of great Use, because it either remains longer in the *Stomach* and *Intestines*, and produces the Effect of attenuating the viscid Humours there, or passes more slowly through the minute *Capillaries*, and reserates the Obstructions in them; which the more volatile Substances could not so fitly perform. Its Salts are easily dissolv'd in *Water*, therefore it soon conciliates its *Virtue*, being drank by way of *Tea*. It loses nothing of its most useful Parts, by Boiling, and therefore such as desire it stronger may have it in *Decoction*; it may be infused in *Ale* or *Wine* to make that which is called *Purll*. Its *Tincture* may be extracted in *Brandy*; it may be taken alone in all the three, or mixed with other *Ingredients* for *Worms*, Want of *Appetite*, intermitting *Fevers* and *Agues*, the *Scurvy* and *Hysterical Cases* or Obstructions of the *Menses*. Take any of these Preparations in a Morning fasting, and eat nothing for some time after to excite the *Appetite*, or take a Quarter of a Pint of its Infusion every two Hours, betwixt the periodical Returns of an *Ague*. The Preparations are its simple or compound *Water*. its *Extract*. *Tincture*. *Fixt Salt*. *Conserve*. *Chymical Oyl*. its simple and compound *Syrup*. It enters the *Aq. Lactis*. *Chamemeli Comp*. Internally. Externally, in discutient and vermifugous Fomentations and Cataplasmes. ol. *Absynth. per insolationem* with common Oil. *Excestreuse*. *Ung. Amarum*. *Martiatum*. *Mastichinum*. *Nervinum*. *Empl. Stomach*. *Magistral*. &c. The Roman Wormwood is fit for the same Purposes; but because of its more agreeable, aromatick Taste, it's more convenient for *Tea*, an Infusion or Decoction in *Water*. Its Leaves are chiefly used in *Conserve*. The Sea Wormwoods serve for the same Purposes, and are not unfitly prescribed in the *Aq. Absynth. Magis Composita*, conciliating more volatile Parts than either of the two former. They may be indifferently used, tho' there be a considerable Difference amongst them, as has been observed.

XI. *Artemisia*.

Artemisia vulg. J. B. 3. 26. 84. *vulg. Maj. fl. purp. fol. inferius albo.* C. B. P. 137. Tournef. 460. R. H. 372. Bauh. in Math. 617. Latif. Dod. pempt. 33. *Mater herb.* Lob. Icon. 764. Mugwort.

The Description.

From a durable, hard and fibrous Root, this Plant sends forth several compound large Leaves, deeply divided, sharp-pointed Segments (contrary to the Wormwoods, which are always blunt). The flowering Stem arises

much higher, has its Branches proportional to the Length, smaller, longer, and farther spread. The Stalk is striated, marrowy, and of a dark Colour: The *Alternate Leaves* dark green above, and white or gray below: The *Flowers* on the Top of the Stalk and Branches, upon a long Spike, are thick disposed, *Erect*, *Cylindrical*, and *Oblong*, (contrary to the Pontick Wormwoods which are always hemispherical) the *Flourishes* purplish, and as *Tournefort* observes betwixt them *naked Ova* or *Embryons*, *Rudiments* of Seeds ending in a *Thread* or *Capillamentum* loaded with *Dust*, which impregnates these *Embryons*, and which along with those underneath the Regular Flourishes become small Seeds like those of Wormwood.

Virtues and Uses.

It is the Opinion of all Authors, that it's a great *Aperient*; it has none of the Wormwood Bitterness, nor is it very aromatick in the Taste; has a peculiar strong Smell; it's recommended chiefly as a good *Hysterick*: A *Tea* of the *Leaves* is given to *Women* that have the *Menses obstructed*. It is prescribed along with other *Antihysterical Ingredients* in *Infusions*, either in *Ale* or *Wine*, and given to drink each Morning in the fore-named Cases. I am ready to think it partakes of the same *Virtues* with its *Congeners* the *Wormwoods*; it's not being so bitter may have brought it first into more frequent Use among the *Females*, but it does not seem to have more active Principles than they for expelling the *Secundine*, and in other Diseases of Women, as is pretended: Proper Experience teaches me, that it does not abound so much with the *fixt Salt* as the other, and its volatile Parts are not so very conspicuous. The *Syr. de Artemisia* is a *Laborious Receipt*. The new *London Dispensatory* has wisely omitted several Ingredients; there still remain enough to make it a potent *Hysterick*, tho' the *Mugwort* were not there.

Mr. *Ray* denies the *white-flower'd* Mugwort to be more than a Variation: *Weckerus* of *Basile*, in his *Antidotarium Speciale*, printed 1572. tells us, this *white Kind* has its *Leaves* lighter green, the Plant is more bushy (*habitus*) the *Stalks* smaller, *Flowers* less and white. This I have also observed, and since it is named in most *Authors* as a real Species, I know not why it may not be looked upon as such, unless we shall deny that Privilege to all *white flowered Plants* growing naturally in the *Fields*, and no ways altered by *Art* or *Culture*. I have made it a constant Observation, that however such Plants are originally of a *purple*, *blew* or *red*, and from thence have varied into *lighter Colours*, might sport and vary, still becoming lighter; when once they arrived at a pure *white*, they never did degenerate into the original dark Colours. I have known the *Vicia Dumetorum Multiflora flore albo* continue in the same Spot, at *Gles-*
clune

clune in Perthshire, my Brother's Estate, a great many Years. I found this *Artemisia flore albo* at Lethindy my Father's Estate near to the former, had it cultivated in a Garden, and it never altered. I found *Anagallis aquat.* *S. Becabunga* off. with a white Flower near Perth, had it cultivated in several Gardens, and it still continued the same: I found only one Stalk of the *Campanula pratens. flore Conglomerato albo*, among a great many others, from a dark purple to this pure white growing at Maidlengare near Dundee in great abundance; propagated it in my own and several other Gardens, and it never vary'd. I have lately found *Lysimachia filiquosa hirsuta magno fl. albo* within ten Miles of this Place towards Bollinbrook, and shall not doubt of its Continuance with a white Flower, as well as others. So that I conclude whatever might have been in the Seed, which gave the first Rise to these white Flowers, naturally of the Fields, they are always thereafter to be esteem'd real Species, since by proper Experience I find they never degenerate nor vary, as the finest Flowers in Gardens do, for which I think these Field white Flowers ought to be more esteemed than the other.

XII. *Acanthus.*

Acanthus Sativus sive Mollis Virgilii C. B. P. 383. Tournef. instit. 176. T. 80. Hist. Oxon. 3. 604. Boer. 238. *Sativ.* R. H. 1326. *Carduus, Acanthus, sive Branca Ursina.* J. B. 3. 25. 75. Brank Urfine or Bears Breech.

The *TRIBE.*

I rather chuse to call this *Planta sui Generis*, a singular Plant, to which no other has any Resemblance, than to call it *Anomalous, Irregular, &c.* For as there are certain Rules laid down for every natural Production, and so long as such keep by these, and never swerve from them, they are never to be esteemed *irregular* nor *imperfect*. It has very much puzzled Authors to what Class they should reduce it. *Boerhave* places it among the *Diangia Polysperma*, tho' it be truly *dispermos*; i. e. A Plant whose Seed Vessel is divided into two Pouches, each of which contains one single Seed. Under that Title he joyns it with a great many others which he owns are *Valde dissimiles inter se*, do very little resemble each other, but adds agreeing in one Structure or Figure of Seed Vessels.

The *Description.*

It has a *parenchymatous* or fleshy Root, divided into pretty large Portions, united in one large Trunk, if of any Continuance, blackish without, but
H reddish

reddish within, which when cut transversely, pours out a thick viscid Juice. It's large *Leaves*, dark green, and smooth, are far spread forth upon the Ground, like a Thistle, about one Foot long, and three or four Inches broad, deeply cut after a neat Manner, and compar'd to the Foot of a Bear, from whence it receives its Name. It's called *Marmorica*, because it's from the elegant Cuttings of this Leaf, in the Edges, which they bend downwards at the Extremity, that they carve the *Chapiters* of the *Pillars* of the *Corynthian* Order. *Callimachus*, surnamed *Catetechnus*, a famous *Corynthian* Stone-Cutter, is the first who invented it, according to *Vitruvius*, which Figure has ever since continued. In the Middle of these bottom Leaves, there first appears in the Spring, a large Tuft of Leaves not unlike that of the Rose-Plantain, but very much larger, which stretching forth by Degrees is extended into a naked, unbranched, streight *Stalk* two or three, and sometimes four or five Foot high, round according to some: But I have often observed it *Quadrangular*, especially from the Middle upwards, where it first begins to be loaded with the *Flowers*. These are alternately placed without *Foot-Stalks*, and ascend obliquely from their Exit. Its Lower-end or Fore-part is first spread forth into a three Leaved (*Calix*) *Empalement*, or rather (*Perianthium*) *Cover-Flower*: Two of which, one on each Side, are long, small, narrow and prickly. The Middle is broad, large, hollow, and endowed with nine or eleven strong Prickles; within this *Empalement* is another two-leav'd *Cover-flower*, two lip'd, whose *Helmet* is longer and cavous, but its *Beard* shorter like a Tongue. Its Flower is monopetalous, or one leav'd, spread forth at the upper and fore-part into a long Petal or Flower Leaf, triply divided, at its lower and hind Part, ending in a stiff open Ring, not unlike the Mouth of a Pistol, from whose inner Surface arise four thick strong crooked *Stamina* or *Chives*, supporting so many *Quadrangular Apices* or *Summits*, like those Brooms or Besoms called *Rubbers*, with which they clean the Floor. It has a *bicapsular* or two poucht Fruit, like an Acorn, each containing a large, gibbous Seed, it flowers in September. The Flow'ring Stem with the Fruit withers, some of the Leaves remain green all the Winter in the Gardens. Its Root is said to be tender, and not to endure the Sharpness of the Frost in the Winter, but if it be any thing old, and if Care be but taken to cut down the Flowering Stem timely, that its Nourishment be not too far spent, in ripening the Seed in these cold Climates, it seems to be pretty durable: It's a Native of Sicily and Italy.

Virtues and Uses.

This Plant shews what Care ought to be taken in examining the true officinal Species. We have *Dioscorides*, *Weckerus* and *Renodius* asserting this

this to be it: We have *Fuchsius* and all the *Germans* making Use of the *Sphondylium* for it by the Name of *Acanthus Germanorum*, calling it also *Brancha Ursina*: We find *Alvesius Synapius*, a *Polish Physician*, speaking of the *Brancha Ursina*, as common in *Poland*, and recommending its frequent Use in the *Plicapolonica*: And we have *English Writers* upon the *Officinal Plants*, recommending it as one of the *Emollient Herbs*, fit to be prescribed in *Decoctions* for *Clysters*; from all which it's evident the *Virtues* of this *Acanthus* must have been confounded with those of the *Sphondylium*, tho' they do not seem to be the same; for I am of *Dodoneus* his Mind, it rather resembles the *Consolida major* than any; and its *Efficacy* in *Burnings* and *Dislocations* would imply as much. *Dioscorides*, according to *Weckerus*, says, that it provokes *Urine*, and yet binds the *Belly*, by which it is not fit for *Clysters*. It's being good in Case of *Ruptures*, and for *Consumptive Persons*, would shew it to be such an *Astringent*, as the *Comfrey*; however it has but little Use in *Phyick*, tho' it be an elegant Plant in *Gardens*.

XIII. *Acetosa*.

1. *Acetosa arvensis Lanceolata*. C. B. P. 114. Tournef. 503. Raij. Hist. 180. *Lappathum acetosum Lanceolatum Repens* Synops. Stirp. Brit. 56. *Oxalis parva Auriculata repens*. J. B. 3. 23. 992. *Oxalis Ovina* Tab. Icon. 440. Sheep Sorrel.

2. *Acetosa Pratensis* C. B. p. 114. Tournef. Inst. Mor. Hist. 2. 582. *Oxalis vulg. fol. oblong.* J. B. 2. 23. 989. Raij Hist. 178. *Lappathum Acetosum vulg.* Raij. Synops. *Oxalis* Dod. pempt. 648 Common Sorrel.

3. *Acetosa Rotundifolia hortensis* C. B. P. Tournef. Hist. Oxon. 2. 583. Raij Hist. 180. *Oxalis fol. rotund. repens*. J. B. 2. 23. 992. *Sativa Franca sive Romana Rotundif.* Rack. 712. *Romana Rotundif.* Munting. Herb. Brit. 224. French Sorrel.

4. *Acetosa Brittanica*. Blair Miscelan. observ. p. 97. *Rotundifol. Eboracensis fol. in medio deliquium patiente*. Hist. Oxon. Raij. Synops Stirp. Brit. 57. *Cambro-britannica Park. an Acetosa Scutata repens*. Raij. Hist. 180? British Yorkshire or Welsh Sorrel.

5. *Acetosa Mexiocana* Munting. Herb. Brit. 227. Bladder Sorrel.

The *TRIBE*.

This is the first Genus of Plants with an *Apetalous Flower*, which, as *Boerhave* justly observes, is deprived of *Flower-Leaves* or *Petals*, but rich in *Stamina* or *Chives*; the *Flowers* then of this *Class* are thick set upon the upper Part of the *Stalk* and *Branches*; for the most part in a long *Spike*,
H 2 each

each consisting of six small greenish Leaves, which compose the *Perianthium* or *Empalement*, three whereof are broader, obtuse, and three narrow and pointed, surrounding for the most part six Chives with yellow, and sometimes reddish Summits; when these decay, the three broad Leaves of the *Empalement* enclose one three square Seed, and become a *Seed-Vessel* or *Capule* to it, while the other three support the Base.

The Description.

1. The first has a long *Root*, running deep in the Ground, from whence proceed several bottom oval Leaves, with two Inch *Foot Stalks*, one Inch or two long, and about half an Inch or more broad; the *Flow'ring Stem* arises in the Middle, cloath'd with a few, alternate, thin-set, sharper Leaves, about one Foot high, streaked and knotted; sending forth small, upright Branches, towards the Top thick loaded with *apetalous Flowers*, succeeded by three square *Fruit*, consisting of a *triangular Seed Vessel*, each including one three square brown pointed *Seed*: The *Root* is perennial. The Taste of the *Leaf* sower, but of the *Root* a little bitterish.

2. The second has a running, creeping *Root*, the *Flow'ring Stalks* low, lying on the Ground, very Branchy; the *Leaves* dark green, narrow and spear pointed, having (for the most part) two Ears as it arises from the *Foot Stalk*, the whole Plant very low and small, the *Flowers* and *Fruit* very numerous, some with yellow, others with red Summits. My worthy Friend, the late ingenious Mr. *Petiver*, observed, that it had both *male* and *female Flowers*. It seems to be a perennial Plant, tho' by the small fibrous *Root* it may be an Annual, and that the small Plants we see in the Winter, may be only the *Seedlings*, which arise from the numerous *Seeds*, dispersed in the *Autumn*; and living, notwithstanding the Severity of the Cold. It flowers most of the Summer, and grows in *Lee* and *barren* Ground and mountainous Sheep Pastures, whence it's called *Sheep Sorrel*.

3. The third is a *Garden Plant*, with a running joynted *Root*, from whence arise numerous oblique *Branches*, loaded with sometimes more round, at other more pointed *Leaves*, of a light green, for the most part, with two Ears, and sometimes of the Shape of an *Heart*; the whole Plant is more bushy than any of the other *Sorrels*, of a light green, with numerous *apetalous Flowers*, yellow *Apices*, and three-square *Seed* and *Seed Vessels*.

4. The fourth seems to be a peculiar *British Plant*. Mr. *Parkinson* found it first in *Wales*; Mr. *Ray* in *Westmoreland*; Dr. *Morison* in *Yorkshire*; and I have seen it in several Places in *Perthshire* in *Scotland*, at

twenty Miles distant from each other, growing in dry Water-courses, in stoney, channely, and gravelly Places, where the Rivers have run in the *Winter*, from whence 'tis hard to find out the Place of it's Nativity, since it rather seems to be a Mountain, than watry Plant, carry'd down by the violent Torrents of Water, from those high Parts in the *Winter* Time. Mr. Ray was inform'd, that being cultivated in a *Garden* two or three Years, it changed its Shape, and became a true *Roman Sorrel*; but I have shewn the Fallacy of that, in a particular Dissertation, in my *Miscellaneous Observations*. It has a pretty big Root, if of any Standing, divided into several small Portions, at the Top of each cover'd with thin loose Membranes; among whom, early in the *Spring*, are push'd forth five, six, or seven round, or almost quadrangular *Leaves*, about an Inch Diameter, with an half round Notch in the Middle, and fore Part, as if it were a Part of the *Leaf* cut or bit off, of a dark green Colour, upon two Inch Foot Stalks lying flat on the Ground, and disposed in a Circle; amidst these, arises a straight, striped, naked flowering Stem, knotted, and divided into three or four alternate *Branches*, arising from the *Knots*, and loaded at the upper Part with *apetalous* pendulous *Flowers*, consisting of a *tetraphyllous* or four leav'd *Empalement*, red or whitish *Sumits*, to which succeed a flat *Fruit*, and small triangular brownish pointed *Seed*.

Having cultivated this, some Years in a *Garden*, I am convinced, it can never change its Shape, for the following Reasons. The *Root* of this is not running, the other is; this has streight naked *Stalks*, the other is joynted, bended, and crooked, with a *Leaf* at each Branch; this is for the most part dark Green; and in some Species of a light yellowish Green; the other, always of a light and somewhat blewish Green; the *Seed Vessel* of this *Plant* (which is most material) is flat, and the *Empalement* four leaved; the other, has a six leav'd *Empalement*, and triangular *Fruit*; and however the rest of the *Habit* of a *Plant* may vary by Culture, that of the Fashion of a *Flower*, *Seed*, and *Seed Vessels*, will never do it. Notwithstanding all this, Dr. Morison says, there's no Difference betwixt this and the *Acetosa Romana*, but the Figure and Fashion of the *Leaf*, for he says, *quoad cetera cum priori*, (i. e. *Acetosa Romana*) *convenit*, to whom Mr. Ray, taking Notice of this, assents, and says, *nec multum abludit*, Dr. Plukenet is of the Thought, that its the same with the *Acetosa Scutata repens*; but Boccone, in his Observations, shews the quite Contrary, giving an elegant Figure of that *Plant*, which he represents to be streight, loaded with Heart like pointed *Leaves*.

5. The fifth is a neat elegant *Plant*, of which the late Ingenious and expert Botanist, Mr. Jacob Bobart, was pleased to make me a Present of the *Seeds*, several Years ago; which, since Muntingius has thought fit to give so fine a Figure of it in his *vera Herba Britanica*, I thought fit to insert it here,

here, as partaking of the same Virtues with the rest. I am in a great Doubt, whether, by *Hisce Belgij oris*, that it growes wild there, or cultivated in Gardens in those Parts. It's an annual Plant, about a Foot in Height, with small, obtuse, oval Leaves at the Bottom, the second Course larger, Heart like and pointed, upon small Foot Stalks from the Bottom, and Branches; being a streight bushy Plant; the flowering Stems arise here and there, partly from the Root, and partly divided into Branches, of a light green Colour; the small Flowers thin set upon the Top of the upper Part of the Stalk and Branches, with partly yellow, partly purplish Summits, very soon spread over with triangular and sometimes quadrangular blue thin Bladders, with pleasantly interspers'd purplish Lines, falling off with, and preserving triangular Seeds. It flowers in July and August. It is a very juicy Plant, of an agreeable Taste, but does not seem to be the same with either Mr. Ray's *Americana*, or *Parkinsons*, because Mr. Ray's seems to be Perennial, and Mr. Parkinson's Figure suits not with this.

Virtues and Uses.

Tho' the two latter are not in the Catalogue of the Dispensatory Plants, yet having the same Virtues, I have given them Place here; all of them are rather Pot Herbs, than of Use in the Shop, they are moderately Coolers, and quenchers of Thirst, being eat in cold Sallads, and sometimes in boil'd Sallads. The Roots of the First, which is chiefly used and kept dry in the Shops, is used in Ptisauis, in hot continu'd Feavers, also Malignant and Heetick Feavers. *Laselius* advises to boil the Decoction of the Roots, which gives a Tincture of Ale; they are Aperient, Attenuaters, Rescraters of Obstructions, and have nothing sower in them, but rather partake of the Virtues of the Rad. Lappathi. They are prescrib'd in Infusions in Wine, or Ale, or Decoctions along with a little Cinnamon, in bilious Cases. The Flowers of the *Acetosa Lanceolata* yield a red Tincture, like that of Roses. The Seeds are astringent, and good in Bloody-fluxes, and Loosnesses, and against Worms. The Preparations are, the Simple distill'd Water, and Conserve of the Leaves. The Juice enters the Aq. Scordij Comp. The Seeds in the Syr. de Melissophillo. Species diamargarit. Frig. Conf. de Hyacinth. *Diascordium*. *Theriaca Londinensis*, &c.

XIV. *Acetofella*.

Acetofella Offic. *Oxys Fl. alb.* Tournes. Instit. 88. *Trifol. acetos.* Raij Hist. 1098. Sive *Trifolium acidum Flore albo.* J. B. 2. 17. 387. Sive *Trifolium acetosum vulg.* Moris Hist. 2. 383. *Trifolium acetosum Flore Lacteo,* C. B. P. 330. Wood Sorrel.

The *Tribe* and *Description*.

This is what we call, *Planta sui Generis*, a Plant of a singular *Tribe* or *Family*, by the Leaf a *Trefoil*, by the Taste a *Sorrel*, and by the *Flower* and *Fruit* neither. It has a small knotty *Root*, with white *Fibres*. *Leaves* upon small *Foot Stalks*, lying horizontally, and divided into three round *Segments*, like the *Trefoils*, and joining in the *Center*, with the *Foot Stalk*; a small white *Flower* arising from the *Root*, upon a proper *Foot Stalk*, said to be *Monopetalous*, or *One Leav'd*, deeply divided into five *Segments*, by Dr. *Tournefort*; tho' I am perswaded it is *pentapetalous*, since I could never yet bring it off whole, to which succeeds a small five Square *Fruit*, oblong, containing so many *Ranges* of *Seeds*, redish when ripe and flowing out with Violence by an *Elasticity* from the *Longitudinal outward Opening*, with which each *Pouch* is endowed,

The *Leaves* of this Plant have the same *Virtues* and *Use* with the former, but are in greater request. The *Conserve* of the *Leaves*, and *Syrup* of the *Juice*, are prescribed to quench *Thirst*, in violent hot *Feavers*. The *Essential Salt* resembles *Cremor Tartari*, *Nitre cristallis'd*. Its *Juice* is very refreshing, neither the *Laaves* of this, nor the former, are of *Use* when dry'd

XV. *Acorus Adulterinus*.

Acorus Adulterinus, C. B. P. 34. *Sive iris palustris Lutea*, J. B. 2. 19. 732. Tournef. Instit. 360. T. 186, 187, 188. Hist. Oxon. 2. 353. Raij Hist. 1186. Common Flag Flower, or Yellow Water Flower-de-Luce. To this it will be convenient to joyn.

XVI.

Iris vulg. Germanica sive Sylvestris, C. B. P. 30. Tournef. Raij. Hist. Vulg. *Violacea sive purpurea*. J. B. 2. 19. 709. Hist. Oxon. 2. 350. Boerh. 2. 123. German Flower-de-Luce.

XVII.

Iris Alba Florentina, C. B. P. 31. Tournef. Hist. Oxon. 2. 351. *Iris fl. alba*, J. B. 2. 19. 719. Raij Hist. 1180. Florentine Flower-de-Luce.

XVIII.

Iris Fetidissima sive *Xyris*, Tournef. *Gladiolus Fetidus*, C. B. P. 30. *Xyris*, Raij Hist. 1190. *Xyris* sive *Iris agria Fetida*, Hist. Oxon, 2. 349. *Spacula Fetida* plerisque *Xyris*, J. B. 2. 19. 731.

The T R I B E.

These Plants according to Tournefort are of the *Liliaceous* or *Lilly Kind*, by Mr. Ray, in his *History Bulbous affines* of a Kin to the *Bulbous Kind*; but in his *Methodus Emendata*, 116, of the *Grass leav'd floriferous Tribe* whose *Flowers* are on the *Top of the Stalk*; by Boerhave, called *Monocotylidoves Bracteata*, i. e. which are endow'd with only one *Seed Leaf*.

Their general Character is a *tuberous, joynted, knotty Root*, for the most part *flat, and superficial* in the *Ground*, and as it were firmly fix'd by several small *Fibres*, proceeding from the lower Part of the *Knots*, and *Joynts*; from whence proceed long *Sword like broad pointed Leaves*, one springing from the *Sides* of the other; amidst these proceeds the *flowering Stem*, adorned with, some two, some three, some four, or more *Flowers*; whose first Appearance is within a two *leav'd Cover-Flower*, or *Perianthium*; the blown *Flower* is *monopetalous*, divided into six *Segments*, whereof three are call'd *uprights*, small at the *Bottom* but dilated in the *Ascent*, for the most Part excavated like a *Spoon*, and obtus'd or blunt at the *End*; three *Downfalls*, narrow also at the *Beginning*, but afterwards enlarg'd as they are bended downwards, where they end in an obtuse or blunt *Extremity* at their *Exit*; they are for the most Part of a different Colour from the rest of the *Petal*, with several interspers'd beautiful, oblique and straight *Lines*; in the *Middle* is the *Pistillum* or *Pointal*, arising from the *Top of the Fruit* and enclosed within a thick *Sheath* for about half an *Inch* as it proceeds, extended into three long, broad *Petals* like a *Tongue*, ridg'd above, and depress'd below, bending outwards in the *Interstice*, between the *Uprights* and the *Downfalls* about half an *Inch* long, forked at the *Extremity*, not improperly called, the *Arches*, under each of the *Depressions* of the *Arches* is lodg'd a thick short *Chive* with a long *apex* or *Sumit*, for the most part of a dark or purplish Colour; the *Flower* does not fall off, but decays and withers, and the *Fruit* is oblong, three squared, and pointed at each *End*, and joynted, (where joynted with a round thick *Pedicle*) filled with several large round *Seeds*, and opening *Longitudinally* outwards; the three *Arches* separate from the other *Petals*, or deep divided *Segments*, made some believe the *Flower* was *Enneapetalous* or nine Leav'd

Leav'd, without having examin'd them, which Mistake is continued by some Writers of a later Date.

The Description.

XV. The *Root* of the first or *Common Flag* is of a dark brown Colour outwardly, and redish within; the *Leaves* somewhat longer and narrower; Downfalls of the *Flower* purplish at the *Exit*, and the rest yellow, little or no Uprights, Arches or dilated Pointal, yellow Seeds, or Berrys dark Brown.

XVI. *German Flower de Luce* has a dark brown *Root* without, white within; *Flowers* blue, Exit of the Downfalls yellow, with black Striæ; *Seeds*, when ripe, large, round, and pale.

XVII. *Florentine Flower de Luce*, has its *Root* gray; white *Flower*; white fragrant and sweet smell'd Exit of Downfalls, yellow purple Striæ, Uprights large and pure; *Seeds* large and white.

XVIII. *Stinking Gladwin* has its *Roots* dark Brown, redish within; *Leaves* shorter, dark Green, and somewhat broad, of an high Scent, commonly compar'd to that of a roast Shoulder of Mutton; *Flowers* small, redish Purple; *Seeds* large, when ripe of a yellowish Red. The first grows naturally in the Ditches and Marshes. The second and third cultivated in the Gardens. The *Florentine* more rare, whose *Roots* kept dry in the Shops is yearly imported from *Leghorn*. The fourth is sometimes seen wild, at the Sides of Hedges, Thickets, and Bushes, particularly, at Jack Straw's Castle beyond Islington, and in the back Road or Lane which goes from the End of Newington to South-gate, near London; (Mr. Miller.) all of them flower in June.

Virtues and Uses.

Authors, for the most Part, would have the *Roots* of the *Flag* and *German Flower de Luce*, to be astringent, when dry; and to be given in Powder for a Loosness, Bloody-flux, spitting of Blood, &c. whether it be so, Experience hath not taught me, but I am sensible the green Juice of either *Root* or *Leaves*, is a potent Purgative in Hydropick Cases, for I have often prescrib'd, with good Success, *Succi Ireos vulg. Luteæ* ʒ iii, *Syr. de Rhamno* ʒ i, fiat potio, given ever Morning, when Purging is requisite; I have also given three or four Ounces of the Juice alone, or made it into a Syrup, and given three or four Ounces of it to evacuate the Waters. It's probable, after the liquid Parts are evaporated, the astringent or more terrestrial Parts may still remain.

The Root of the Florentine Flower de Luce is well known to be a great *Attenuater*, and *Absorbent*, therefore 'tis prescrib'd in Powder, in *Hætick* and *Pthysical* Cases, to attenuate the gross and viscid Matter in the Lungs, and to curb the Acrimony of the thin Matter, which causes the dry tickling Cough. It is prescrib'd in pectoral Decoctions and Ptisanes, in Powders, Linctus's, and Electuaries, and in a Word, where the Lungs and Breast seem to be affected. It enters in *Aq. Imperialis*, *Terebinthinata*, *Limacum magistralis*, *Syr. de Prasio*, *Looch e pino*, *Looch Sanans*, *Scilliticum*, *Oxymel Helleboratum*, *Species Diaireos*, *Elect. pectoral.* *Theriaca Andromach*; and externally in *Diachylon Ireatum*, &c. The Powder of the Root, is also much used among Scents and Perfumes, along with the Powder of Starch, &c.

The stinking Gladwin is chiefly used for Horses, the Roots being beaten and the Leaves bruised, and given with Oats and Fanugreek Seed, for Diseases in their Breast, and for purging of them. It seems it must have its evacuating Quality along with the green Juice of the other, and the attenuating Virtue with the Florentine Flower de Luce, when it is so recommended as a *Specifick* in *scrophulous Tumors*, externally apply'd, and inwardly given; and when it is recommended as a *Provoker of Urine*, and an *Hysterick*.

XIX. *Acorus Verus*.

Acorus Verus sive *Calamus Aromaticus* Officin. C. B. P. 34. *Calamus Aromat. vulg. multis Acorum*. J. B. 2. 19. 734. *Typha Aromatica Clava rugosa*, Hist. Oxon. 3. 246. *Acorus Verus* sive *Calamus Officinarum*. Raij Hist. 1313. sweet smelling Flag.

The *TRIBE*.

This is a *Plant sui Generis*, Class'd with the *Grass leav'd Tribe*, by Mr. Ray; it flowers so seldom, that scarce any satisfactory Account has been given of its Fruetification since *Clusius*; from whom Dr. Morison and Mr. Ray have borrowed it, and look upon it as a *Typha*, and I have been ready to esteem it a *Sparganium*; but I find Dr. Boerhave places it betwixt the Two.

The *Description*.

It has a superficial, very running, knotted, and joynted Root, somewhat flat, gray without, white within, lying superficially, and almost naked, upon the Ground, in which it's fix'd with many small Fibres, from the lower Part, sending forth here and there several Leaves, narrower

rower than those of the *Flag Flower de Luce*, and broader than those of the *Sparganium*, among which it promiscuously grows in the natural Soil, long and pointed, two or three proceeding together, after the manner of the former, of a pleasant, sweet, fragrant Smell; from the Side of some *Leaves* bursts out a most compact *Spike*, about one or two Inches long, and small, like a Horn, of naked staminateous or apetalous male Flowers with yellow *Summits*, betwixt which appear small round *Embrions* or *Rudiments* of *Seeds*, surrounded by four small *Leaves*, instead of an *Empalement*, which afterwards become *Seeds*, about the Bigness of a Grain of *Pepper*. Being cultivated in the *Gardens*, it seldom or never Flowers, and in the *Ditches* and *Marshes*, where it naturally grows, it runs so by the *Root*, that it seldom produces the *Spike*. It grows plentifully in *Ditches* in *Cheshire*, as I have been informed by that expert Physician *Dr. Massey* of *Wisbech*, Fellow the Royal Society.

Virtues and Uses.

This is one of the most useful *Roots* in the *Shops*; there is no Preparation where attenuating of gross *Humours* is requisite, where gratifying of *Taste* by aromatizing or spicing of it is design'd, but this may be admitted of, there being scarce any *Palate*, but to which it is grateful. It's *aperient* and *discutient*, good in Diseases of the *Breast* and *Uterus*, a great *Alexipharmick*, and good for the *French Pox*, in *Obstructions* of the *Menses*, *Spleen*, *Liver*, and *Urine*, in *Malignant Fevers*, removing of *Pains* of the *Hypochondries*, and effectual in *Hydropical Cases*: Its prescribed in *Stomach* and *digestive Powders*, *Diet Drinks*, *Tinctures*, *Apozemes*, *Decoctions*, and *Infusions* internally; and externally in *discutient Fomentations*, *Carminative* and *Stomachick Plasters*. It enters in *Aq. Imperialis*, *Celestis*, *Syr. de Artemesia*, *Iva Arthritica*, *Elect. Diacorum*, *Antidotum Hemagogum*, *Diacorcuma*, *Amarum minus*, *Tryphera Solutiva*, *Trochi de Caparibus*, *Cypheos*, *Hedichroi*, &c.

XX. *Adiantum.*

1. *Adiantum album* sive *Ruta Muraria*, C. B. P. 356. *Ruta Muraria*, J. B. 3. 37. 745. *Adiantum album*, Raij Hist. 147. *Tournefort*, 541. *Filix petrea Ruta Facie*, Hist. Oxon. 3. 584. *Wall Rue*,

2. *Adiantum nigrum* Officinar, J. B. 3. 37. 734. *Fol. longioribus pulverulentis pediculo nigro*, C. B. P. 355. Hist. Oxon. 3. 588. *Onopteris mas*, Raij Hist. 152. *Filicula que Adiantum nigrum Offic. pinnulis obtusioribus*, *Tournef*, 542. *Black Maiden Hair*.

To these may be added, XXI.

Trychomanes sive Polytrichum, C. B. P. 356. Tournef. Instit. 539. J. B. 3. 37, 747. Morif. 3. 590. *Trychomanes*. Dod. Pempt. 471. Raij Hist. 140. English Maiden Hair.

XXII.

Polypodium vulg. C. B. P. 359. Tournef. Instit. 540. Hist. des Plants, 519. Morif. Hist. 3. 563. *Polipodium*, J. B. 3. 37. 738. Raij Hist. 137. Common Polipody.

XXIII.

Asplenium sive Caterach, J. B. 3. 37. 741. Tournef. Instit. 544. Hist. des Plants, 395. Morif. Hist. 3. 561. Raij Hist. 139. *Caterach* Offic. C. B. P. 354. *Asplenium*, Dod. Pempt. 468. Spleen-Wort.

XXIV.

Lingua Cervin Offic. C. B. P. 353. Tournefort, 544. Raij Hist. 134. *Lingua Cervin* vulg. Morif. Hist. 356. *Phillitis* Synops. Stirp. Brit. 44. *S. Lingua Cervina* vulg. J. B. 3. 37. 748. *Phillitis* vulg. Clus. Hist. C. C. xiii. Hart's-Tongue

The T R I B E.

I have joyn'd all these lesser *Capillary Plants* together, not only because they agree in their *Characters*, but also in their *Virtues*. They are called *Capillaries*, out of a fond Conceit that they are effectual for all Diseases of the *Hair*, because the Divisions of some of them are exceeding fine; for the Ancients had a great Conceit of relying upon the Signature of Plants, in order to find out their Virtues. They are called *Epiphyllisperma* and *Dorsifera*, because their *Seed Vessels* are adherent to the back Part of the *Leaf*. They are called *Acaules*, because they have no *Stalk*, but only *Leaves* with the *Foot-stalk*. Tournefort says, they want *Flowers*, but have *Seeds*; *Semina minutissima nudis Oculis vix conspicua* as Mr. Ray has it, fine *Seeds* not perceptable by the naked Eye. But tho' Tournefort, has, with the greatest Exactness, observ'd the Structure of their *Seed Vessels* by a Microscope, as is to be seen elegantly represented from *Tab. 312* to *320*: It is much he did not observe their Fore-runners the *Flowers*, which
are

are so obvious in the *Polypody*, that they can easily be discry'd by the naked Eye; for there's so great a Necessity for the *Male Dust* to impregnate the *Female Eggs* that though the *Flowers* are not so obvious as the *Seed Vessels*; there is the greatest Reason to believe each Plant has both; and since they are so discernable, in the *Polypody*; by Parity of Reason, they are to be had in all the other *Capillaries*, tho' not yet discover'd, which nothing but *Tourneforts* mistaking the Use of the *Farina fecundans*, as in my *Botanick Essays*, p. 257. has kept so long a Mystery; and therefore *Borehave* only says, *hactenus visibili* they want *Flowers* hitherto observ'd; these *Seed Vessels* are variously situated upon the back Part of the *Leaf*.

The Description.

1. *Wall Rue* is a very small Plant, with an hard fibrous *Root*; small, hard, green *Foot-stalks*; with its *Leaves* dark Green, and variously divided, after the Manner of *Rue*; the *Seed Vessels* cover the whole Surface of the Back of the *Leaf*.

2. *Black Maiden Hair* has shining, black, slender *Foot-stalks*, arising from a hard, woody *Root*, and supporting a fern *Leaf*, divided into *Segments* in a peculiar Manner, by which 'tis distinguished from all others, it is of a lighter Green than the former, and is only called Black from the *Foot-stalk*.

XXI. *English Maiden Hair* is a Plant with a long, narrow, pinnate *Leaf*, consisting of several small, round *Leaves*, joyn'd to a *Midrib* by Pairs.

XXII. *Polypody* has pretty long, broad *Leaves*, with long, and narrow, sub-divided *Segments*, sometimes joyn'd to a *Midrib* by Pairs, and other times joyn'd to another after they have proceeded from the *Midrib*, from a round, thick, bended, joynted, and knobbed *Root*, variously dispersed and branched out superficially in the Ground.

XXIII. *Spleen Wort* has short, thick set *Leaves*, with short and round *Segments*, not quite divided to the *Midrib*, but alternately dissected; the Back of the *Leaves* covered with a shining kind of silky or satiny Substance, with the *Seed Vessels* dispers'd over all it's Surface.

XXIV. *Hart's* or *Hind's Tongue* is the only *Capillary Plant*, with an undivided *Leaf*, of near a Foot long, and about two Inches broad, pointed, shining dark Green in the fore-part, with a strong *Midrib*, and more light in the Back, with Lines of *Seed Vessels*, running obliquely from each Side towards the Middle.

Virtues and Uses.

All these are Natives of *Britain*, for the *Adiantum verum* I have omitted, since the *Trychomanes* is substituted in its Place. They are all prescribed indifferently in the Shops, under the Name of *Herba Capillares*, except the *Polypodium*, whose *Root* is only in Use. They are very temperate,

temperate, and esteem'd good for sweetening the Blood, and correcting the Acrimony, and are esteem'd aperitive. They are prescrib'd in most Compositions, for Diseases of the Breast, which proceed from thin acrimonious Humours, such as pectoral Syrups, Decoctions, Ptisans; *Adiantum album, nigrum*, and in their stead *Trichomanes* enter the *Syr. de Erysim.*, *Cichorio cum Rhabarb. de Glichiriza. de Prasio. Looch Sanans. Elect. Pector. &c.* *Asplenium* is more particularly recommended for Obstructions, and other Distempers of the Spleen, it enters the *Syr. de Cichor. cum Rheo*, *Ol. de Caparibus*, omitted in the new Dispensatory's *Empl. ad herniam. Lingua Cervina* enters *Aq. Limacum*, some infuse it among warm sweet Worts, and work it up with Yest, and drink it in the Spring for shortness of Breath. *Polypody Roots*, were by the Ancients esteemed purgative, it is now only observ'd to be only an alterative, sweetning the Blood, opening obstructions in the Bowels, Corrects the Acrimony in dry Coughs, and saltish Spittings; it is good in the Asthma, Scurvy, and Hypochondriac affections. It's given in Infusions, in altering, and Scorbutick Diet Drinks, in Ale, or Wine. It enters the *Decoctum Epithymi. Syr. de Prasio. Catholicum. Lenitivum. Conf. Hamech.* now omitted in this Dispensatory.

XXV. *Adiantum Aureum.*

Adiantum aureum, Tabern. Icon. 797. *Polytrichum aureum* Maj. C. B. P. 356. *Polytrichum apuleij* Maj. J. B. 3. 37. 752. *Muscus Aureus Capillaris medius*. H. L. B. 431. *Muscus Capillaceus* Maj. pediculo & capitulo crassioribus, Tournef. 550. *Muscus Capillaceus* Maj. pediculo villosa, Morif. Hist. 3. 630. *Adiantum aureum* Maj. Raij Hist. 123. Golden Maiden Hair.

This by all modern Botanists is class'd among the Mosses, of which it hath the Advantage, that its Fruit is much more conspicuous than any other, except its Congeners, it's an annual Plant, with a small, straight Stalk, about two, or three Inches high, several alternately thick set, green Leaves, round the Stalk about the middle Part, like a Fir-tree, when in the Seed Bed, but much less; the upper Part of the Stalk is naked, bearing upon the Top a quadrangular Fruit cover'd with an hairy Cap, opening transversely, when Ripe, and pouring out Seeds as small as Dust.

This Species differs from the *Adiantum aureum medium*, and *minus*, not only in Bigness, but in Time of coming to Head; the Heads of the *majus* appear in the Middle of Summer; and those of the *medium* and *minus* in Winter. It is thought by some to be drying and discutient, by others sudorifick. Mr. Rougeard, a Physician in Normandy, according to Tournefort, relates wonderful Effects of it in the Plurisy, either by Decoction, or, making of the Spirit thus, clean the Plant, bedew it with Water, macerate it three Days, distill it, cohobate more with this distill'd Water, reiterate the Distillation, and Cohobation six Times, till a potent Sudorifick is obtain'd. Schroder recommends it for strengthening the Hair, per signaturam.

Ageratum,

Ageratum vide *Ptarmica*.XXVI. *Agrimonia*.

Agrimonia Offic. Tournef. 301. T. 155. *Agrimonia* S. *Eupatorium*. J. B. 2. 17. 398. *Eupatorium* veterum S. *Agrimonia*. C. B. P. 321. Raij Hist. 400. *Gracorum odora vel minus odora*. Hist. Oxon. 2. 624. Boerhave, 78. Agrimony.

Dr. Morison calls this, a pentapetalous Plant, with very rough Seed Vessels, each containing two Seeds; Mr. Ray, and Mr. Dale call it hexapetalous, but Mr. Ray retracts, and calls it afterwards, pentapetalous; Tournefort calls it, a polypetalous rosaceous Flower; Volkhamer also, calls it, polypetalous; but Boerhave is in the Right, when he calls it, pentapetalous, or hexapetalous; so uncertain it is to Class Plants by the Number of the Petals, especially in the rosaceous Flowers, which if they exceed four or five, are never determinate. Mr. Ray formerly asserted it had solitary, naked Seeds, but in his *Methodus Emendata*, he owns that it has two, sometimes three, or four naked Seeds contain'd in one Seed Vessel. Boerhave still, with Herman Classifies it with the *Gymno-monospermae*, though it has neither one single, nor naked Seed, succeeding to a Flower. It has a woody, perennial and durable Root; straight, sometimes branched Stalk; alternate, compound, soft, dark green hairy, dented Leaves, pinnate, consisting of several Pairs joyn'd to a Midrib, with a single one at the End; Yellow polypetalous, for the most part pentapetalous, Rosaceous Flowers, with several Apices or Summits, with a monopetalous Empalement, divided into so many Segments, as there are Petals, to which succeeds an oblong furr'd Fruit, or Seed Vessel, furnished at the upper Part, with several rough, sharp Prickles. The Flowers are alternately plac'd in a long Spike; the Seed Vessel, when ripe, contains for the most part, two, sometimes three, or four Seeds in one Pouch. It grows in the Sides of Hedges, and grassy Banks, on Way Sides, and flowers in June and July.

It is of a stiptick salt Taste, is astringent, deterfive and vulnerary, reserates Obstructions in the Bowels, and is much commended for Diseases of the Liver, is good in Chronic Distempers, is therefore prescribed in hectick Fevers, spitting of Blood, and Dysentery, and in every Case where sharp and acrimoni-ous Humours abound. It's given in Decoctions, Ptisans, and vulnerary Potions, among ingredients for medicated Wine or Ale; in Fomentations and vulnerary Lotions externally, for Ruptures and to curb spongyous Flesh in Wounds; it enters a few Shop Preparations, such as, *Decoctum Traumatium*, *Syr. de Pilosella*, &c.

XXVII. *Alcea*.

Alcea vulg. fl. ex rubro Roseo, Tournefort, 97. Vulg. Raij Hist. 604. Vulg. Maj. C. B. P. 316. J. B. 2. 23, 953. Hist. Oxon. 2. 557. *Malva* *Verbenacea*, Park. Vervain Mallow.

XXVIII. *Althæa*.

Althæa Dioscoridis & *Plinij*, C. B. P. 315. *Tournef.* *Sive Bismalva*, J. B. Raij Hist. 602. *Malva Sylv. sive palustris aut Ibisus*, Moris. Hist. 2. 552. Marsh. Mallow.

XXIX. *Malva*.

Malva Sylv. fol. sinuato, C. B. P. 314. *Tournef.* 95. Raij Hist. 599. *Sylv. procerior, S. Elatior rectave fl. Maj. subrubente aut purpureo venis saturate purpureis picto fol. sinuato*, Hist. Oxon. 2. 52. Common Mallow.

XXX. *Malva Arborea*.

1. *Malva Arborea Offic. Malva Rosea fol. Subrotundo*, C. B. P. 315. Holyoaks.

2. *Malva Arborea maritima nostras*, Park. Theatr. 301, *Marit. Britan.* Moris. Hist. 2. 523. Raij Hist. 601. Brittish Tree Mallow.

The T R I B E.

Dr. Morison gives an *Epithet* to these of this *Tribe*, deduced from their *Virtues*, by calling them *Pentapetala Molientes*, though they be truly *Monopetala*, or *One flower-leav'd*; they are *class'd* together, by the unanimous Consent of all Authors, under different Denominations; by their *Flower* they are called, by *Tournefort* *Monopetalous expanded Bell-flowers*, with a *Tube* in the *Center* receiving the *Pointal*; by Mr. Ray, *Semine nudo Polysperma*, or having many naked *Seeds*, combin'd together, like a *Whorle*, in Form of a *Cheese*; by Dr. Herman, *Gymno polysperma*, i. e. with many naked *Seeds*, &c. but by Boerhave, *Polangia polysperma*, i. e. with many *Seeds* gathered together within as many *Seed Vessels*; and thus Volkhamer concludes, that the *Fruit* consists of several *Kidney Seeds*, closely united in a *Circle*, each being cover'd by it's proper *Pericarpium*, or *Seed Vessel*.

The general Characters therefore of this *Tribe* are, that it has a *Monopetalous Flower*, some larger, some less, according to the different *Genera*, deeply cut into five *Segments*, all which unite in a *Center*, and form a *Pyramidal Tube*, thickly beset at the upper Part with *Chives* and *Summits*. This *Tube* is enlarged in the lower Part, where it covers the *Rudiment* or *Embryon* of the *Fruit*, amidst which, is placed a *Pointal* received by the *Tube*, which it pierces at the upper Part, and is then divided into several *Thumbs*, without any *Summits* or *Tops*; at the lower Part this *Pointal* is duted as it were, in the *Center* of the *Fruit*, or inner Part of the several *Seed Vessels*; of which it is compos'd, for the *Fruit* consists of several *Seed Vessels*, enlarged towards the *Circumference*, becoming narrow, like so many *Wedges*, in the *Center*; are indented into the *Pointal*, like the Form of a *Cheese*; when the *Pointal* is withered, then the *Fruit* contain'd within

within the *Common Perianthium*, or *Cover Flower* falls off, without the *Seed Vessels* being separated from each other; and therefore, Mr. Ray excuses himself, for having once called these *naked Seeds*, because, he thought, such were so, which, when ripe, separately fell off from the *Common Mother*. Indeed, these *Seeds* do stick very close and firm to each other, but when separated, they plainly have a distinct *Seed Vessel* covering each *Seed*, and not as other *Capsular Plants*, are divided into so many *Pouches* within one *Common Membrane*.

XXVII. *Vervain Mallow* has a *Perennial* hard *Root*, sending forth several deep divided round *Leaves*, upon *Foot-stalks*; thick, hairy, round, short, *flowering Stems*, furnished with still more divided *Leaves*, the *Flowers* in *Clusters*, appear in the *Bosome* of the *Leaves* and *Branches*, towards the *Top*, large, open, of a *pale Red*, and in some *Species* of a pure *White*, with the *Tube* and *Pointal* always inclining to one *Side*, (as is justly observ'd by that accurate *Botanist*, Dr. *Dillenius*) the *Fruit* round, and small, in *Proportion* to the *Flower*, within a *Bladder-like Common Cover*, which was before the *single Calix*, or *Empalement* of the *Flower*.

XXVIII. *Marsh Mallow*, has a fleshy, mucilaginous, round, yellowish *Root*, subdivided into lesser *Fibres*, sinking deep in the *Ground*; large *Leaves* upon *Foot-stalks*, round, soft, undivided, and pointed in the fore *Part*, of a soft *Surface*, like *Satin*, or *Velvet*; a round, straight, woody, marrowy *Flowering-stalk*, arising two, three, or four *Foot* high, cloathed with *Leaves* more angled and pointed, from the *Bosome* of which, proceed at the upper *Part*, *Flowers* in *Clusters*, from a double *Calix*, divided into three outer pointed *Segments*, and five inner, subrotund, much less than the former, the *Fruit* much larger and flatter, closely surrounded and wholly cover'd by the *Common double Husk* which was the *Calix* or *Empalement*; the *Seed Vessels*, and the *Seeds* within, are of the *Shape* of a *Kidney*.

XXIX. *Common Mallows* have a *Root* more hard, and woody than the former; round *Leaves*, upon long *Foot-stalks*; the *flowering Stem* weak and flexible, spread forth upon the *Ground*, endow'd with *Leaves*, and very branchy; from their *bosomes* proceed single *Flowers*, not in *Clusters*, upon *Foot-stalks* less than the *Alcea*, and larger than the *Althæa*; more red, with dark purplish *Bottoms*; a double *Empalement* divided into three outer narrow pointed *Segments*, and five inner broadened pointed ones, which after, becomes the *Common Husk*, which but half Way covers a thick, little, round *Fruit*, whose *Husks* contain small, thick *Kidney Seeds*.

XXX. Since the *Dispensatory* is silent as to the *Particular Species* of the *Malva Arborea*, I have here inserted two.

I. The *Malva Rosea*, or the *Holy Oak* is a large high *Plant*, it has two *Seed Leaves* of an *Heart Shape*, shining dark green *Surface*, peculiar to all the *Malvaceous Kind*; as the *Plant* encreases, the bottom *Leaves* are

upon long, round, rough, hairy *Foot-stalks*; the *Leaves* round, with the former *Mallows*, but very large, some four, five, six, or seven Inches diameter, not supported as the *Althea*, which they resemble most, but more pointed than the *Common Mallow*; the *Flow'ring-stem* unbranch'd, but well furnish'd with alternate *Leaves*, upon *Foot-stalks*, rises streight, to five, six, or seven Foot high, with *Flowers* on the upper Part, not in Clusters, but alternately from the Bosome of the *Leaves* first, but afterwards, in a long Spike, upon the upper Part of the *Stalk*, upon short *Foot-Stalks*, very large, some two, three, or four Inches Diameter, some single, some double, of a great variety of Colours, making one of the Most beautiful *autumnal Flowers* in a *Garden*. It has a double *Calix*, divided, for the most Part, into three outer pointed *Segments*, and five inner subrotund, which afterwards becomes the *Common Husk* to a large, round, flat *Fruit*, consisting of a great Quantity of thin, broad, large *Husks*, each containing thin, flat, *Kidney Seeds*. The *Root* of this *Plant* may be said to be *biennial*, as dying after the *second Year*, but it is so large and fleshy, that though the *Root* which push'd forth the *Flow'ring-stem*, does decay, yet there are several collateral Buds that spring forth, which with due Care, by transplanting, and separating the Quick from the Dead, may be brought to last for several Years. This I give as a Caution to such as having a beautiful *Holly-Oak* in their *Garden*, would not have it lost, and perhaps could not so well depend upon the *Seed* (which varies much as to the Colour and Doubleness of the *Flowers*) as upon the *Slip*. It's a *Garden Plant*, and *flowers* in the Month of *August*; and from thence, throughout the Season. But that which I look upon as the true *Malva Arborea*, and as much Medicinal, as the other, is the

2. *Malva Arborea Maritima nostras*, so called by *Parkinson*, and justly, since it's Place of Nativity is chiefly on the *British Sea Coasts*; nor has it been described or observ'd by any else where, but by that great Restorer of *Botany*, the great Improver, if not the first Inventaer of *Method*, the expert *Dr. Morison* (of whom I have spoke in another Treatise*) who found it in a small Island, called, *Pierrepierce*, overagainst *Little Britain*, or *Brittany* in *France*: He also says, it is found in an Island called, *Deny*, three Miles from *Port Royal*, and five from *Bristol*. It's also found near *Hurst Castle*, (*e Regione vectis*); in *Portland Island*, near to *Weymouth*, in the County of *Dorchester*; in *Candy Island*, near to *Wales*; and in the *Bass Island*, in the Mouth of the *Firth of Forth*, near *Edinburgh*, in *Scotland*.

This fair *British Plant*, has *Seed Leaves* like the former; it's bottom *Leaves* not fully so large, more angled, and whereas, the other more resembles

seembles the *Althæa*, but much rougher, these have a greater Resemblance to those of the *Common Mallow*, but more filky and soft, like to those of the *Althæa*. The *Flow'ring-stalk*, or rather Trunk full of alternate *Leaves*, upon long *Foot-stalks*, is very branchy, rising two, three, or four Foot high the first Year, when it increases in Bigness, and becomes woody before next *Spring*, loosing most of it's bottom *Leaves*, but the upper remaining still green. Next Year it spreads it's Branches every where, becoming a large beautiful Tree, about six, seven, eight, or ten Foot high, with a Trunk, as Dr. Morison justly observes, as big as a Man's Arm, hard, and woody the first Year, full of Pith, which now decays; about *July* it sends forth the *Flowers*, thin set, upon *Foot-stalks*, from the Bosom of the *Stalks*, and *Branches*, large, light red, purple bottom'd, like those of the *Common Mallow*, but larger, with a peculiar *Empalement*, (*viz.*) five inner pointed, and three outer, broad, oval, or obtuse *Leaves*; the *Fruit* thicker than any of the former, larger than those of the *Alcea* and *Malva*, and less than those of the *Althæa* and *Malva Rosea*, consisting usually of five, but not above seven, or eight *Seed-vessels* in a Circle, but much larger than any other *Mallow Seed*, half cover'd with the *Common Husk*, which was the *Empalement*, and so loose, that they fall off separately, when ripe, whereas, the other never fall off, but in the whole *Fruit*, having spent all it's Nourishment in the woody Trunk, and ripening the *Seed*; it dies the second Season, but yields a plentiful Crop of *Seeds*, for its better Propagation.

Though I have, in my *Botanick Essays*, 198. endeavour'd to clear up the distinctive Characters of the *Malvaceous Tribe*, it will not be amiss, that I insist a little further upon the same Subject here: In the doing of which, I must establish the *Calix* or *Perianthium*, as the chief Characteristick; which tho' but of small moment in other Classes, yet it seems to be of great Use in this, upon which I can justly assert each of these to be a particular Genus. It's plain and obvious to me, that all the genuine *Mallow's* have a double *Calix* or *Perianthium*, divided into five inner, and three outer *Segments*, the inner much larger, the outer much less, both pointed, close adherent to, and but half covering the *Fruit*, or *Whorlet*. The *Malva Arborea nostras*, either makes up a particular Genus, and then it must stand alone, without any Congener, unless we admit of the *Malva Arborea Veneta dicta*, whose *Leaves* are much less, more *Althæa* like; it's not so branched, the *Flowers* more thick disposed, and less in Bigness. I own, I have not examin'd the *Flower* nor *Calix*, in which the chief Distinction lies. As to the Distinction of our *Malva Arborea* from the *Common Malva*, it chiefly lies in the external *Leaves* of the *Perianthium* or Cover-flower, which are distinct even to the *Pedicle* or *Foot-stalk*, by which it may be call'd triphyllous, the internal *Perianthium*, is one Leaf divided

divided into five pointed *Segments*, and the *Fruit* chiefly *pentacapsular*, but half cover'd with the *Cover-flower*, which now becomes the *Common Husk*.

For the *Althæa* and *Malva Rosæa*, I look upon both as *Althæa's*, the one *Palustris* or *Marshy*, and *Indigenous*; the other, *Garden* and *cultivated*; the one *perennial*, the other *annual*; and tho' they differ in *Bigness* and *Structure* of the *Flower*, yet they agree in the *Perianthium*, *Seed*, and *Seed-vessels*, as much as *Sister* and *Brother* can do, but if any will separate them, I am not averse, for then each must stand upon his own *Limbs*, for tho' there be a vast *Variety* in the *Flowers* of the *Holly-Oak*, at that rate the *Althæa* must stand it's *Chance* alone.

The *Alcea* has a great deal to say, for it's being distinct from all the rest, for it is a low *Plant*, has a proportionably big, stiff *Stalk*; it's *Flowers* large, and in *Clusters*, and the *Leaf* chiefly much divided, and yet these do not so much *Constitute* the *Genus*, as the single *Perianthium*, which afterwards becomes a *Bladder Common Husk*; for there are *Species* of it *annual* and *perennial*; of a whole *Leaf*, especially at the *Bottom*; larger, and lesser *Flower*; more dispers'd, or in *Clusters* or *Tufts*, with, or without *Pedicles*; with a straight as well as bended *Stylus*; with an oblong, as well flat *circular Fruit*; but none of these are so certain as the loose *Perianthium* at first, and after the *Bladder Common Husk* or *Cover-Fruit*; an *Example* of which, I here present the *Reader*.

Alcea peregrina, Ger. Emac. 936. *Vesicaria*, C. B. P. 317. *Solifera multis veneta*, J. B. 2. App. 1068. *Althæa vesicaria veneta*, Moris. Hist. 533. *Ketmia vesicaria vulg.* Tournef. Instit. 101. Boreh. Ind. 272. Venice Mallow.

This *Elegant annual Plant*, has a very fine fibrous *Root*, undivided, broad, roundish, dark *Green*, somewhat hairy, pointed bottom *Leaves*, about one Inch broad, and one Inch and a half long, notched at the fore Part, a straight, round, hairy, marrowy *Stalk*; alternate *Leaves* upon the *Stalk*, deeply divided, upon short *Foot-stalks*, into three narrow, long pointed *Segments*, the Middle longer, the two Lateral shorter, each somewhat notch'd, at the Edges lesser and smaller; *Branches* from the Bosom of the *Leaves*; the *Flowers* beset with *Leaves*, thick set upon the upper Part of the *Stalk* and *Branches*, about the Bigness of those of *Althæa*, with purplish Borders without, of a pale yellow Colour within, a fine dark purplish Bottom, short thick *Tube*, loaded with *Summits* yellow as Gold; a dark, purplish *Pointal*, endow'd with five proportionably big, round, purplish Buttons. The *Cover-flower*, or *Perianthium*, is hairy, thin, transparent, with several longitudinal Nerves, divided into five pointed *Segments*, and surrounded by ten, or twelve small, long, narrow pointed *Portions*, arising from the *Foot-stalk*. When the *Flower* is faded, the *Fruit* is very rough, and hairy, Conical, consisting of five double Rows of

Seed-

Seed-vessels, adhering to so many double *Placenta's*, or *Mother-beds*, surrounded by the *Cover-fruit*, which was formerly the *Cover-flower*, and is now inflated like a *Bladder*, each of the *Seed-vessels* contain one single, thick, *Kidney Seed*. I have also remarked what *Gerard* justly observes, that it's *Flower* opens in the Forenoon, from eight till towards Noon, and then it shuts, and opens in the Afternoon till towards four, when it shuts again, and therefore, is not unfitly called, *Solifera*, by *J. B.* or rather, it ought to be called, *Horaria*, with *Gerard*. I had the Present of the *Seeds* of this delightful *Plant*, from the expert and curious *Mr. Philip Miller*, last Spring, now deservedly preferr'd to be *Gardiner* to the *Physick Garden* at *Chelsea*, belonging to the *Apothecaries* of *London*.

This *Plant* has been reasonably look'd upon as an *Alcea*, by the *Ancients*, and altho' most of the *Moderns* class it with others of the *Malvaceous Tribes*, yet it's single *Bladder Cover-fruit*, with the Division of the *Leaves*, will vindicate it to be an *Alcea* still; tho' to say the Truth, it has a strange Medley of Characters; it's high streight Stature might bring it in with the *Althea's* in *Dr. Morison's* Opinion, it's dark green Habit, divided *Leaf* and *Bladders*, makes it an *Alcea*, by its streight thick *Tube* and *Summits* of the *Flower* its a *Malva*; it's conical *Fruit* makes it a *Ketmia*, with *Tournefort* and *Boerhave*; but in this they differ, that the *Ketmia* *Fruit* is *enangio-polyspermos* whose *Seeds* are contain'd within one *Seed-vessel*, divided into four *Pouches*, whereas, this is *enangio-monospermos*, each *Seed-vessel* containing one single *Seed*, and several adhering to one common *Placenta*, or *Mother-bed*; but that which undoubtedly makes it a *Ketmia*, is the *Pistillum* or *Pointal* divided into four or five Portions, each terminating in a round *Button*, which is peculiar to the *Ketmia's*, as I had the Fortune first of all to observe. See *Botanical Essays*, p. 288. *Tab. 1. F. 10.* So that there is scarce any of the *Malvaceous Tribe*, but this *Plant* shares with it in one or other of it's Characters.

N. B. Upon a more strict Examination of the medly *Flower*, and *Fruit* of this *Plant*; I find, to common View, the yellow golden *Apices*, dispos'd into five double Rows, corresponding to the five double Rows of *Seed-vessels*; the *Apices* themselves by a Microscope to be *unicapsular* and *globulous* (not *bicapsular* (so to speak) as most other *Flowers* are). The unblown loaded with *Dust* opaque, those which had shed the *Dust*, transparent, opening (when they shed the *Dust*) at the Top; it seem'd to resemble a *Rosaceous Ranunculus* *Flower* half blown. The five *Buttons* (which I look upon as an undoubted Note of a *Ketmia*) upon the Top of the *Pistillum*, being blown, and of a darker Colour, I perceived upon a Microscopical Observation, such of them as were full, were as so

N

many

many *Vesicula* or Bladders, filled with a *limpid* and as it were *viscid Juice*. This leads me into the Opinion, that even these *Buttons* upon the Top of the *Pistilla* of *Plants*, may actually serve as the *Prostata* in the *Males* to be a kind of Vehicle to the *materies seminalis masculina*, to prevent it's too great Volatility, and convey it in greater Abundance to the *ovum femineum*. The Consideration of a certain Viscidity upon these *Buttons*, especially in the *Liliaceous Plants*, it's Speciality in the Colour and Structure from the other Parts of the *Flower*, particularly the *Apices*, makes me look upon it as of special use (for *natura nihil frustra facit*) which it's probable may be this now mention'd; and altho', in the other *Malva's*, and in the *Labiata Flowers*, there be no such *Button*, yet they may be hollow *Tubes*, and are usually fimbriated; I know not but this viscid Liquor may be spread upon the Dust upon the *Apices*, situated round the *Tube*, as they use to sprinkle water from a Brush or Sponge.

The last thing I shall take Notice of in the *Mallows*, is their *Veins* and *Nerves*, which in the *Common Mallow* and *Holly-Oak* are usually five larger and two lesser, all terminating in a *Center*, at the Extremity of the *Foot-stalk*, and running toward the *Circumference*, in the Middle of so many *Lobes*, rounder at the Edges in the Bottom, and more pointed in the *Stalk-leaves*. In the *Althea* all the *Lobes* are pointed, the Middle farther stretch'd out, the two *Lateral* shorter, and the two outmost shorter still; In the *Mallows* they are circular; in the *Althea*, the *Leaf* is, as it were, subrotund, and broad at the Base, with a *Midrib*, sending forth for the most Part, four Pair of lateral *Veins*, the Extremity of the *Midrib*, making up the *Impair*; the *Alcea* is divided into five or seven *Segments*, according to the Number of the *Veins*, and this last described into three, or five; for as the *Veins* vary from five to seven in all the other, in this they vary from three to five.

To conclude the *Botanical Part* of this *Decad*; upon a more strict Examination, I do not find the *Leaves* to be so very variable, that they ought to be rejected as *Characteristicks*, no more than other Parts of the *Plants*, tho' they be neglected by *Modern Botanists*; for if the *Pinna*, the *Wings*, or *Penna*, the *Feathers* be consider'd, as to their Number, and Disposition; if the *Costa-media*, or *Midrib*, and its branching out into the *Wings* and *Feathers*; if the *Nerves* in the simple, and not compounded *Leaves*, and the Divisions into *Lobes* and *Segments*, their Manner, Figure, and Number be strictly consider'd, we should perhaps find a greater Certainty in, and a more fixed determinating of them, than most People imagine; and as to their Disposition into *alternate* and in *Pairs*, that by no means is to be neglected. In a Word, as there are *Strollers* in *Flowers*, as to the Variety of their Colours, and indeterminate Numbers of their *Petals*, or *Flower Leaves*: so likewise are there, in the *Leaves* of several

several *Plants*, particularly between the *Bottom*, and *Stalk Leaves*, for in some the *upper Leaves* are divided, and the *bottom ones* whole; and in another the *bottom Leaves* are divided, and the *upper ones* are whole. But on the other Hand, as there are certain Rules to be observed in the *Flowers* of other *Plants*, so are there also in the *Leaves*. I designed in this Place to have given my Thoughts about the Variegations and Stripes in *Leaves*, as well as in the *Flowers* which Mr. Bradley has several Times endeavoured to account for: But as I have already exceeded the Bounds I proposed in these Sheets, I shall leave that to the next, or some other of the subsequent Decads, or other *Botanick Performance* I have in View, if suitable Encouragement is given.

The *Virtues* and *Uses* of the *Malvaceous Tribe*.

Amongst the many *Conferences* I have had with my late ingenious Friend Mr. Pettiver, he was always pleased with the Distinction I made betwixt the *Malvaceous* and the *Oleraceous Emolients*; nor will it be inconsistent with the Scheme I propose of finding out the *Virtues* by their *Characteristick Notes*, that I here, in the General, from good Experience assert, That all the *Malvaceous Species*, whether in the *Dispensatory Catalogue* or not, may be promiscuously prescribed for Physical Uses. Tho' all of them have the same *Virtues*, yet the *Althæa*, or *Marsh Mallows*, are most in Use; for the *Alcea*, or *Vervain Mallow*, it is seldom used, unless it be a *Succedaneum*, when the others are not at Hand. Tournefort says, there is such a Mixture of a great deal of *Phlegm*, a considerable Part of *Earth*, join'd with an *acid* and *sulphur* in its viscid Juice, which so entangles its *Salts* that they cannot be disengaged, but by Fire; for by the *Chymical Analysis* it both affords a *concrete*, *volatile*, and *lixivial Salt*. All agree, that it is one of the most softning sweetning Medicines yet known; for by its viscid Parts it so blunts and sheaths (as it were) the sharp and acrimonious saline Particles, that they can no more cut and tear the nervous Filaments by which we have that Sensation of excessive Pain: A Ptisan of its Leaves may be given to such as are afflicted with a dry Cough (provided it be not rendered too viscid and glemish by too much boiling) for it much corrects the Sharpness of those Humours which possess the inner Surface of the Lungs and Bronchia: It has the same good Effect in excessive and tormenting Gravel Pains, and stopping of Urine, being drank in great Quantity, to dilute that sandy and rough Matter, which frets the nervous Coats of the Kidneys, Ureters, and Bladder: It may also be given in a Syrup for the aforesaid Uses. Being apply'd either by Way of Cataplasm or Fomentation to the Region of the Kidneys, or Os Pubis, it eases the Inflammation by relaxing the too much distended muscular or nervous Fibres, caused by a confirmed

confirmed *Stone* pressing upon these Parts, or by a *Stoppage* of *Urine*. In a Word, there is no Affection of the Body where the *Fibres* are too much distended, where the *Humours* are too thin, sharp, and serous, or where violent *Pain* ought to be eased, but any of these Plants, especially the *Marsh Mallow*, may be used; for though all of them be good Softeners, yet it has more Viscidity, and is more capable to blunt the Sharpness and Acrimony of Humours than the rest. The *Leaves* of *Mallows* and sometimes the *Seeds* are most used. The *Leaves* with those of *Althea* enter the Decoction for *Clysters*; the *Seeds* enter the *Trochisci Gordonii* and *Pulv. Hali*. The *Roots* of *Althea* and *Leaves* of *Mallows* enter the *Syr. Dialthea*, which is a good Opener, Provoker of *Urine*, and Expeller of the *Stone*; also in Diseases of the *Breast*, which proceed from Sharpness of *Humours*. The *Root* enters the *Pulv. Dialthea*, & *diaprunum lenitivum*. Its dry'd Powder may enter into *Pectoral Loochs*. A Mucilage also may be made of it, and, being mixt with *Sugar Candy*, it may be taken by Way of *Linctus* for a dry Cough. Its external Preparations are *Fomentations*, and *Cataplasms* for Inflammations, to suppurate hard and indurated Tumors, and to correct the Acrimony of sharp and eating Ulcers. A Mucilage of the *Root* is made and boil'd in *Oyl*, which enters the *Ung. Dialthea*, and all the three *Dyachylon Plaisters*. *Tournefort* mentions *Tablets* made with Powder of *Marsh Mallow Roots* with the *Pulv. Ircos*. and *Queretan* a *Looch* with the *Pulv. Althea*, fl. sulph. *Pulv. Diaireos*: But so many effectual Preparations may be made of it of all Kinds, for the aforesaid Distempers, and its Use in these Cases is so universally known, that to insist longer upon it would be superfluous; but its internal Preparations, because of its great Viscidity, are not so frequently used as the external. All these *Mallows* are indigenous in most Parts of *Britain*, except the *Malva Arborea*, and *Alcea Peregrina*. Common *Mallows* grow in fat Places, round Garden Walls, and moist Dung-hills. *Vervain Mallows* grow upon the Sides of dry Banks. *Marsh Mallows* in maritime marsh Places, along the Sides of Ditches and Drains; 'tis in such Plenty in most Parts of *Holland* in *Lincolnshire*, especially round *Boston*, that whole Loads of the *Roots* may be dug up in a short Time. Its *Flowers* afford an agreeable Spectacle along the Sides of the Ways in the Months of *August* and *September*, but it never varies in its Colour.

Thus I have finish'd what I design'd to acquaint the Publick with in this Decad, which, if acceptable, shall be follow'd by Plants in the several subsequent Decads, treated after the same Manner, as Time and Conveniency can allow.

F I N I S.

PHARMACO-BOTANOLOGIA: 2

OR,

An Alphabetical and Classical

DISSERTATION

ON ALL THE

British Indigenious and Garden Plants

OF THE

New *London* DISPENSATORY.

In which

Their GENERA, SPECIES, *Characteristick* and *Distinctive* NOTES are Methodically described; the Botanical TERMS of ART explained; their *Virtues, Uses,* and *Shop-Preparations* declared.

With many CURIOUS and USEFUL REMARKS
from proper Observation.

DECADE II.

By PATRICK BLAIR, M. D. of *Boston* in *Lincolnshire*, and Fellow of the ROYAL SOCIETY.

*Miseri mortales qui Naturam ejusque artificium Abdunt, ubique
diligentia patens, & Amplissimos solis radios Nubecula ob-
fuscant.*
Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN at the *Golden Ball* over-against the
Royal Exchange in *Cornhill*; W. and J. INNYS at the West
End of *St. Paul's Church-Yard*; and W. MEARS at the
Lamb without *Temple-Bar*. M DCC XXIV.

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THE
P R E F A C E
TO THE
Second D E C A D.



THE Advantages of the Title of Dissertation given to this Treatise, and of the Manner of distributing the Plants in it, are evident in this Second Decad. For I am not confin'd to the bare Rules of a Botanical and Pharmaceutical History, by only giving the synonymous Names, the Description, Time of flowering, and Place of growing of the Plants, nor to a Recital of the ordinary Virtues, Uses, and Shop Preparations, but have the Liberty of adding what else concerns them, such as an Improvement of the different Sexes, their Generation, Vegetation, Structure and Nourishment, with the Circulation of the Sap, &c. And as to the Order of ranging them, I have chosen not to do it purely alphabetically, nor strictly methodically; for I add the Con-Geners, Brethren of the same Family, to whatever the Alphabet introduces, which is the reason that those two Decads have not yet quite exhausted the first Letter; this perhaps may make the unwary Reader afraid of the Work's being drawn to too great a Length, as indeed it would, should every Letter of the Alphabet take up as much room as the first; but if he considers how many Plants are already described, which, according to the Course of the Alphabet, must have been reserved for some of the subsequent Decads, how many Classes are explained, and how many general Ideas of Virtues are given, he will easily conclude that the Length of the two or three first Decads will leave less to be said upon each Particular hereafter, and consequently every Decad must contain a greater Number of Plants than at present.

I begin

The P R E F A C E.

I begin this Decad with *Alchymilla*, a particular Kind of apetalous Flowers. *Alkekengi* introduces the Bacciferous Tribe: as does *Alliaria* the Cross-like tetrapetalous Tribe. *Allium* serves to explain the Grass-leav'd bulbous rooted Plants, and *Aloe* gives a large Dissertation on the Structure and Manner of Nourishment of the succulent Plants. The Rosaceous Flowers come in with *Alfina*, where the Manner of Operation of moderate Astringents is explained. *Amaranthus* shews a doubtful Plant, whether polypetalous or apetalous, and discourses further on Astringents. *Ammi* and *Amomum* put me in mind of giving a general Idea of the Umbelliferous Tribe, which are numerous in this and the next Decad, and gives me an Opportunity of explaining some Technical Words, useful to be known. *Amoris Pomum* leads further into the Knowledge of the Bacciferous Plants, where the *Solanum* Tribe is discoursed upon, with their Virtues, some of which are more innocent, others more noxious; where is a memorable Instance of the *Solanum Lethale*, which had such Effects as to produce a signal Victory, and save a whole Kingdom from being conquer'd. The esculent Fruit Trees are brought in with *Amygdalus*, where the Vegetation of the Stone Fruit Trees in general is discoursed of. I conclude with explaining the Difference between the *Anagallis* and *Veronica*, and in the *Veronica aquatilis* Becabunga, is a Discourse of the Operation of the Antiscorbuticks in the Body.

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P R E F A C E, Page xi. Line 5. read *to be known*. p. xiv. l. 14. r. *nothing*. Book, p 6. l. 32. r. *that*. ib. l. 36. make a Period after *Consistence*. After Prescriptions a Colon. p. 8. l. 23. r. *teret*. l. 31. r. *Mas*. p. 11. l. 18. r. *redolens*. p. 17. l. 18. r. *grows in*. l. 31. for *Wast* r. *Coast*. p. 20. l. 26. r. *Goats*. p. 27. place the *Acetosa prat.* before the *arv. lanc.* the first Description belonging to the *Pratensis*. p. 29. l. 16. for *striped* r. *striated*. p. 37. l. 25. r. *Fellow of the*. p. 37. l. 25. r. *undivided*.

E R R A T A in this Decad.

P A G E 54. l. 30. r. *vulg.*



PHARMACO-BOTANOLOGIA:

OR, A

TREATISE

OF

DISPENSATORY PLANTS,

Alphabetically and Classically disposed.

DECADE II.

I. ALCHYMILLA.



1. *Alchymilla* vulg. C. B. P. 319. Tournef. Instit. 508. *perennis viridis* Maj. fol. ex *Luteo virescentibus* Moris. Hist. 2. 195. *Alchymilla* Raij Hist. 208. *Pes Leonis* sive *Alchymilla*, J. B. 2. 17. 398. 1. Boer. Ind. 202. Lady's Mantle or Lyons Paw.

2. *Alchymilla perennis incana argentea*, seu *sericea satinum provocans*, Moris. Hist. *Alpina Quinquifolij folio subtus argenteo* Tournef. *Tormentilla Alpina folio sericeo*, C. B. P. 326. *Alchymilla Pentaphylla* Raij Hist. 209. *Pentaphyllum* seu potius *Heptaphyllum argenteum flore muscoso*, J. B. 2. 398. f. *Satin* or *Silver-leav'd Lady's Mantle*.

O

3. *Alchy-*

3. *Alchymilla minima montana* Colum. p. 1. 146. Tourn. *Annua minima hirsuta folijs inferne candicantibus* Morif. Hist. *Cherophyllo nonnihil similis*, C. B. 152. *Percepier Anglorum quibusdam*, J. B. 3. 27. 74. *Percepier Anglorum* Raij Hist. *Parsleypiert*.

The *T R I B E*.

This is the second of the *apetalous* Class in this Catalogue, it swerves from *Tournefort's* general Rule, by containing more than one Seed in the Seed-vessel, as himself owns, neither do's the *Perianthium* or Cover-Flower become the Seed-vessel.

The *Description*.

1. The first has a hard, black, fibrous *Root*, bottom *Leaves* at first appearance folded up like the Umbrella of Women, afterwards stretch'd forth upon long *Pedicles*, dispos'd in a Circle round like those of *Mallows*, of a yellow Green, more finely indented or notch'd, with for the most part seven *Veins* arising from the Center, and so many superficial Lobes, sometimes half round, at other times more pointed, especially those on the *Flowering-stalk*, which being round, thick, hairy, not above one Foot long, weak and lying on the Ground, is thick beset with gradually lesser *Leaves*, upon shorter *Foot-stalks* not much branch'd. The *Leaves* are seldom wet, but are bedew'd with drops of Water, as if the Surface were Oily. The *Flowering-stalk* and *Leaves* are still more yellowish as they ascend, supporting small herbaceous *Flowers* upon small *Foot-stalks*, with an inverse conical *Empalement*, enlarg'd into four larger and four lesser pointed alternate Segments (so as the one would seem to be the Coverflower to the other) with a short hollow Pointal, surrounded by four short Chives, and yellow Summits. The Seed-vessel which was never a part of the Flower, contains for the most part two Seeds.

2. The Second is in all Respects less than the other; its flowering Stem much smaller; its *Leaves* divided to the Center into five or seven blunt Segments, dark Green above, and of a Sattin or filky Silver colour below.

3. *Parsleypiert* is a small, low, annual Plant, has finely notch't, triply divided, alternate *Leaves*, narrow towards the *Stalk*, and broad at the End, somewhat lighter Green below, *apetalous Flowers*, with an *Empalement* only enlarg'd into four Segments.

The first grows frequently in dry Meadows, and Pastures; flowers early in the Spring, when its obvious by its yellow Green before the *Leaves* are at their full Bigness. The *Silver-leav'd* is more rare; it seems
to

to be a mountainous Plant, wash'd down to the low Countries by the rapid Winter Streams; for its often found in dry Water-Courses; it grows according to Mr. Ray in Rocks, not far from *Hurstwater* near *Perreth* in *Westmorland*, also in *Yorkshire*. I found it in a dry Water-course in the Wood of *Methuen* near *Perth*; also in the same Soil in *Athol* near the River *Tay* in *Scotland*, for the most part along with the *British Sorrel*. Being an agreeable, low, delicate Plant, its often transplanted and cultivated in Gardens.

Parsleypiert grows in dry Grounds, and pasture Fields, also among Corn.

Virtues and Uses.

Lady's Mantle is by all esteem'd a potent Astringent. Its therefore a great Vulnerary, by curbing the immoderate Efflux of the *Sanies*, and watrish Humours in some Wounds, and cacoethes Ulcers, and disposing them to a better Digestion, by incrassating the purulent Matter in Fomentations; when it also prevents the rising of proud Flesh. The Juice or dry'd Leaves in a Decoction, curbs the Milk, and firms the too relax'd Fibers in the Breasts of Women. *Simon Pauli* attributes other Virtues to it, as in the Margent, * from which as from the Figure of the Leaves its probably called the *Lady's Mantle*. Inwardly giv'n in Infusions and Decoctions, it stops the immoderate Flux of the *Menses* and *Fluor albus*; also its prescrib'd in vulnerary Potions for inward Bruises, spitting of Blood, bloody and common Flux. The Leaves are only in Use, and the dry'd Powder may be inwardly giv'n in the aforesaid Cases, it scarce enters any Shop-Preparations. The *Silver-leav'd* has the same Virtues, as also the *Parsleypiert* from the Taste, though it be generally esteem'd a potent Diuretick, and is either giv'n in boil'd Sallads, or eat as a Pickle for provoking of Urine, and expelling of the Stone, from whence 'tis call'd *Parsley Breakstone*; but I suppose this Conceit has proceeded from some Resemblance it has to *Parsley*, which is noted for these Virtues.

* *Nonnullæ defloratæ pudicitiae virginum quæ ubi jugum passæ sunt solerter norunt Decolto Alchymillæ στροφαίαν ac obsignata quasi natura mentiri illabatam castimoniam & florem virginitatis. Aq. etiam Alchymillæ distillata flaccidas mammas imbuunt ut iis pristinum virginale decus iterum restituant talesve hac arte reddant, S. Pauli Quadripartit. Bot. p. 17.*

II. *Alkekengi*.

Alkekengi Offic. Tournef. Instit. 151. *Solanum Vesicarium* Dod. pempt. 454. C. B. P. 165. *Solanum Halicacabum* vulgare, J. B. 3. 34. 609. Raij Hist. 681. *Solanum Vesicarium vulgatius repens fructu & vesica rubro*, Moris. Hist. 3. 526. Boer. Ind. 2. 66. Winter Cherry.

The *T R I B E*.

This is the first *Bacciferous* or *Berrybearing* Plant in this Catalogue, so class'd by all Authors, whether they more especially have a regard to the *Flower* or *Fruit*; its near of kin to the *Nightshades*, with a monopetalous quinquifid Flower, and monophyllous quinquifid Empalement.

The *Description*.

It has a jointed very creeping *Root*, sending forth small *Fibers*; round, reddish, jointed, marrowy, upright *Stalks*, one or two Foot high; *Leaves* by Pairs, upon long Foot-stalks, from the Joints larger and darker, but of the same Figure with those of the common *Nightshade*, with even, not notch'd, Edges. The Flowers upon long, somewhat hairy, *Footstalks*, white, large, monopetalous, and open, divided into five pointed Segments, with a small, long Pointal, and a round Button; closely surrounded by five *Chives* with oblong yellow *Summits*. The loose *Empalement* is divided into five Segments. As the Flower decays, it is extended and puff'd up like a Bladder stretch'd beyond, and enclosing the Fruit, which being first Green, becomes afterwards a round, pulpy, pale-red Berry, hanging downward, about the bigness of a small Cherry, with many flat Seeds; it flowers in *July* and *August*, and ripens the Fruit in *September*. Its only cultivated in the *British Gardens*, but is a Native of *France*.

The *Virtues* and *Uses*.

The *Berries* are chiefly us'd, and are kept dry in the Shops, they are esteem'd potent Diureticks, and recommended for allaying the Acrimony of *Urine*, and making a plentiful Evacuation of it. They open the Pores, and reserate Obstructions, and therefore are good for the *Jau-nice*, and other Diseases of the *Liver* and *Gall-Bladder*, proceeding from the want of a due Percolation of gross and viscid Humours in the minute
Glans

Glands, there by its attenuating Parts, it also causes a plentiful evacuation of Waters in the *Dropsy*. *Tournefort* tells us, the Leaves are acrid and bitter, though they do not render the blew Paper so red as the Berries. An Infusion of the Leaves in Wine, may be drank in Hydropical Cases, and by Persons subject to the Gravel, an Emulsion may be made of the Seeds, or the green Juice may be drank in the forenam'd Cases; but the Syrup is the more advisable, because of the Acrimony of the crude Juice: In a Word, it seems to partake of the Virtues of most of the *Nightshades*, to which by its Characters its near of Kin, as may be seen when we come to treat of them. The Shop Preparations are *Trochisc. Alkekengi*, it enters the *Syr. de Cichor. cum Rheo*.

III. *Alliaria*.

Alliaria C. B. P. 110. J. B. 2. 21. 883. Raij Hist. 792. *Hesperis Allium redolens* Moris Hist. 2. 252. Tournef. Instit. 222. Boer. Ind. 2. 17. Sauce alone, or Jack by the Hedge.

The *T R I B E*.

Jack by the Hedge being the first that introduces the *Tetrapetalous* Class, I shall insist a little upon its constituent Characters. The *Tetrapetalous* Plants are of two kinds, each having *Siliculous* and *Siliquous* Fruits; the one with plain and similar Petals, the other Dissimilar, of different Shapes and Figures. The one called *Cruciformes* or *Cross-like* by *Tournefort*, because the Petals are plac'd two and two opposite to each other in form of a Cross; the other called *Papilionaceous* by *Cordus* a German, about two hundred Years ago, because of their resemblance to a Butterfly, of which hereafter.

These *Cross-like* Flowers of which we now treat, are variously to be considered. I. They are for the most part Annuals in their Duration, some Biennials, but few Perennials, except some of the Waterkind. II. Their Texture is for the most part soft and tender, the *Stalks* herbaceous, seldom or never Woody, frequently hollow, sometimes gross and thick, very pithy and marrowy. III. The *Leaves* frequently much larger in proportion to the bulk of the Plant, or bigness of the *Flower*, always Alternate, or quite surrounding the Stalk, seldom or never arising by Pairs from jointed Stalks. IV. The *Flowers* small in proportion to the Plant, chiefly indeterminate and irregularly plac'd in a long Spike upon the upper part of the Stalk and Branches, and but seldom in irregular Umbells or Tufts; the four Petals chiefly of a white, more rarely of a blewish or red, but frequently of a yellow Colour, falling off when the Fruit begins to en-

crease along with a four Leav'd, for the most part oblong Empalement. V. The Pointal surrounded by five or six Chives becomes afterwards 1. a Fruit, not a Pod, but bicapsular, containing one single Seed; 2. a Sili-culous Pod, short, small or round, and bicapsular. 3. A filiquous and bicapsular Pod; 4. A Pod filiquous and articulated or jointed; and 5. an unicapsular Pod. VI. Their Taste is frequently waterish and insipid, seldom bitterish, for the most part hot, especially the Waterkind. Those with carnous Roots are waterish tasted, mixed with a more or less penetrating hotness. VII. The Seeds are small, round, hot, bitterish, and very Oily. VIII. They are generally good attenuaters, reseraters of Obstruction, Diuretick, Lithontripectick, Antiscorbutick. The Oleraceous Kinds very Nutritive, very few consisting of gross and astringent Particles.

The Description.

Alliaria is an annual straight Plant, arising one or two Foot high, with broad, light-green Leaves, notch'd in the Edges, larger and more round towards the Bottom; less and more Pointed, upon small Foot-stalks in the Ascent; small white tetrapetalous Flowers, to which succeed upon the top of the Stalk and Branches, small, oblong, bicapsular Pods with small round Seeds. The whole Plant has a Garlick Taste and Smell, from whence it has its Name. It flowers in April and May, and ripens the Seed in June, and grows at the sides of Ditches and Hedges.

Virtues.

The tender Leaves makes a good Pickle, its a good attenuater and provoker of Urine; the dry'd Leaves are said to be good against Poison: it cuts and incides gross and viscid Humours, its believ'd to have the same Virtues with *Scordium*, but more mild; its good in the Collick and Nephritick Pains. The Juice or Powder externally apply'd, cleanses fordid and putrid Ulcers. 'Tis seldom us'd in the Shops.

IV. *Allium*.

Allium Sativum, C. B. P. 73. Tournef. Instit. 383. vulgu & *Sativum*, J. B. 2. 19. 554. Raij Hist. 1125. *Sativum porraceis foliis*, Moris Hist. 2. 387. common Garlick.

V. *Cepa*.

Cepa vulg. C. B. P. 71. Moris Hist. 2. 383. Tournef. Instit. 382. *Cape five*
Cepa rubra & alba rotunda, J. B. 2. 19. 547. Raij Hist. 1115. Dod. pempt.
 687. The Onion.

VI. *Porrum*.

Porrum Commune capitatum, C. B. 72. Tournef. *Porrum* J. B. 2. 19. 551.
 Moris Hist. 2. 390. Dod. pempt. 688. Raij Hist. 1126. common Leek.

The *T R I B E*.

Here is introduc'd a new Genus in several Respects, 1. They are Monocotyledones in respect of their Seed-Leaf, which is single. 2. They are Bulbosæ in regard to their Roots, and that Twofold; *Squamosæ nucleatæ*, and *Squamosæ non nucleatæ*, that is, the Garlick Root consists of several small Bulbs, each involv'd in a common Coat, and consisting of several proper Scales, each furrounding the other to the Center, whence the common Germen or Bud proceeds, and several Bulbs are incloas'd within one common Coat or Membrane. The Onion and Leek Roots are said to be *Squamosæ & Tunicate*, when one single Bulb consists of several spherical Scales to the Center, and surrounded with one Membrane, without any other Bulbs along with it. 3. In respect of their *Leaves* they are *Graminifoliæ* Grass-leav'd, arising broad from the Root, and still tapering towards the Point, either broad or narrow, and flat, or hollow and Fistulous. 4. In respect of their Flower, they are called by Morison *Hexapetalæ Tricapsulares*, in which he is followed by Herman and Volkhammer: and by Tournefort *Flores Liliacei*. These his *Lilly-flowers* he defines thus; that they are Flowers which are either Hexapetalous or Monopetalous, divided into six Segments, but whatever the Fashion of the Flower be (for some are large, some less, some Monopetalous, others Hexapetalous, and some Tripetalous) its all one to him if the Fruit be Tricapsular. Thus far I thought fit to give an Account of the *Bulbous*, *Grass-leav'd* and *Lilly-flower'd* Tribe, that I may refer to this Place, whatever may occur of these Tribes hereafter.

The *Description*.

IV. *Garlick* has a compound *Root*, consisting of several small Bulbs, included within one common *Tunicle* or *Membrane*, sending forth several
 small,

small, round, white Threads from the lower Parts, by which it receives the Nourishment; these single Bulbs being planted early in the Spring, send forth several small, narrow, darkgreen, grassy *Leaves*, Concave without, and Convex within, or longitudinally Convex, and hollow like a Sword-blade, and sharp Pointed: Amidst these in the Autumn (or perhaps not till next Year upon the planting of the whole Root, without separating of the Bulbs) arises a small, round, smooth, straight *flowering Stem*, one or two Foot high, bearing on the Top a compact Globe, or Tuft of Flowers; first involv'd in a common Tunicle, which bursting as the Tuft increases, sends forth several little hexapetalous Flowers, upon very small, short Pedicles; the Petals whitish, or pale Blew pointed with six Chives, and a Pointal in the Middle, which afterwards becomes a three-square and tricapsular Fruit full of Seeds. *Boerhave* rightly observes, that these are for the most part Male-flowers, without any succeeding Fruit; but that there are several carnosus Bulbs in the Interstices, betwixt the Pedicles of the Flowers, and close adherent to the top of the Stalk, which being committed to the Ground, encreases as other bulbs of Roots do; he makes a doubt, whether these Bulbs are Impregnated by the Male-dust, as the Seed in Seed-vessels are; but I am of Opinion, these are truly Roots, and not Seeds, for its plain, that these Bulbs on the top of the Stalk do emit small Pedicles, which support the Male-flowers; and the reason why the Flowers are not Hermaphrodite, is, because there is so much Nourishment bestow'd upon the Bulbs, that the Pointal in the center of the Flower is starv'd, and the Fruit cannot swell so as to perfect the Seed. This happens to other Monocotyledones, as well as bulbous Plants. I have seen in the bosom of the Leaf, betwixt it and the Stalk in the Orange-lilly, several of these Bulbs burst forth, which when committed to the Ground, push'd forth small Fibers also, and became Roots. I have also observ'd in a very rainy Harvest, when they did not dare to cut down the Corns for fear of rotting on the Ground, that the ripe Wheat still on the top of the grown Stalk, has sprung forth after the same manner as Barley does in Malting; because of too great a supply of Moisture, we shall observe more of this when we come to *Arthanita*. *Garlick* Roots should be taken up in the Autumn, and the small Bulbs planted in the Spring, for if it remain in the Ground all the Winter, each of the Bulbs will spring forth, and so the Roots which are only in use, will be of no use at all.

V. The *Onion* grows like the former, its Root only consists of one Bulb, which sometimes encreases to a pretty bigness. The Leaves are Fistulous, which is peculiar to this Plant. It do's not flower the first Year, but in order to render the Root (which grows superficially in the Ground) the bigger they trample down the Leaves, and in the Autumn take up the Root,

Root, which being planted deeper, and near a Wall, in fat Ground next Spring, it then emits an hollow turbinated flowering Stem, supporting an umbel or tuft of Flowers like the former, but few or none of those Bulbs upon the top of the Stalk. The tricapfular Seed-vessel is perfected in September.

VI. The *Leek* grows like the former, the small white *Fibers* from the lower part of the *Root* are stronger, and more numerous. The *Root* a little enlarg'd below, is rather Cylindrical than *Bulbous*; the *Leaves* are much broader than those of *Garlick*, more blewish, flat, longitudinally Sulcated, or ridg'd, and pointed like those called hollow Sword-blades. Its of a slower growth than any of the former, it do's not require to be taken up in the Autumn, but remaining in the Ground, is only fit for Kitchen uses. The second Summer it flowers, but has not Bulbs so frequently interspers'd upon the top of the Stalk as the *Garlick*, its only manur'd in Kitchen Gardens.

Virtues and Uses.

Manur'd *Garlick* has an high Scent, and strong Taste, consisting of penetrating, subtile Particles; upon which account 'tis a potent *Attenuater*, great provoker of *Urine*, *Lithonriptick*, *Stomachick*, *discutient* and *expeller of Wind*. In *Gravelly* cases a Decoction of one or two *Garlick Heads* in a *Clister*, makes a plentiful evacuation of *Urine*, as does an Infusion of it in white Wine, and made in a *Possset*, drank warm in good quantity, prove effectual in violent fits of the Gravel from a stoppage of *Urine*. Some swallow whole Cloves of it, (*i. e.* the little Bulbs) to avoid the nauseous Taste, in a Morning fasting to excite the Appetite, and expel the Wind. The *Ung. Soleare Phar. Bat.* being a Decoction of the *Rad. Allij* with Hogs Lard over a gentle Fire, strain'd and spread forth when cold, being apply'd to the Soles of the Feet in Children, proves an effectual Remedy in the Chincough, its so penetrating, that even their Breath will smell strongly of it; its a good *Pectoral*. Being given among Oats, its much commended for the Cold in Horses. They eat it with Bread in the South of *France* and *Spain* for the ordinary Dyet, but being ungrateful to those in these Northern Climates, some substitute *Onions*, and others eat *Ramsons* or *Allium latifolium palustre*.

Onions are both good for the Pot, and for physical Uses; the tender Plant is a frequent Ingredient in cold Sallads. They are frequently boil'd in Broaths, but the *Noctambuli* and *Somniloquaces* had need to beware of them, for by Experience it has been found, that such as are addicted to walking or speaking in their Sleep, have been more giv'n to it upon the eating of *Onions*, and by boiling them (in a Rag for fear of Discovery) among

Broath some have discovered Secrets in their Sleep after the taking of the Broath, which they would not have told if awake ; & *Ceparum sub cineribus rostarum*, *ficuum pinguium*, *Ung. Basilici*, *S. Althææ ana ʒij.* M. f. *Cataplasma* is a potent Emollient for suppurating of hard, indurated, glandulous and schirrous Tumours, and an effectual Discutient if timely apply'd. *Roasted Onions* inwardly taken, when their Acrimony and hot Taste is destroy'd, are good Pectorals in Colds and shortness of Breath.

Leeks partake of the same Vertues, but are rather us'd in the Kitchen, than the Shops, where the other two supply their Place.

Alnus nigra Baccifera vide *Frangula*.

VII. *Aloe*.

The Plant *Aloe* comes next in course of the Alphabet, which though of little or no use in *Physick* in these Northern Climates, yet since the Gardens of the Curious have of late Years been so well stock'd with a great variety of its *Species*, since its *inspissated Juice* from the hotter Regions is so universally known in the *Druggists* and *Apothecaries Shops* ; and since there are several Things in it worthy of Observation, I have thought fit, 1. To give a general Description of the Plant it self, without determining the officinal Species. 2. To give an Idea of its Texture and Nourishment, and 3. To give some probable Conjectures concerning the Parts which afford, and the manner of procuring the inspissated Juice.

The *T R I B E*.

Its the first succulent Plant we meet with, and is justly said to be of kin to the *Seda*, being *Planta Succulenta*, *Semperviva*, *Sempervirens* & *acaulis*, *flore tubuloso*, *liliaceo*, *oblongo*, *in sex partes Secto*, *staminibus senis*, *cum suis apicibus*, *fructu triquetro in tria Loculamenta diviso*, *seminibus planis*.

The *Description*.

It has a proportionally thick, hard, short *Root*, soon dispers'd into a great variety of small, numerous, hard *Fibers* ; the *Leaves* arise from the *Root*, circularly dispos'd, thin, membranous and flat at first, afterwards becoming more or less thick and juicy, or thin broad and fibrous, tapering sooner or later according to the bigness of the Plant, or length of the *Leaves*, with or without Prickles, terminating in a point of various Figures and Colours ; a proportional small, round, naked, for the most part weak and infirm flowering Stem, one or more, as there are circles of *Leaves* from the same *Root*, arises from the Center, supporting upon small, weak,

weak, thin dispos'd Pedicles, small, oblong, monopetalous Flowers, narrow and tubulous, somewhat bulg'd at the bottom, more or less deeply divided, and more or less expanded into six pointed Segments, with six Chives supporting so many horisontal, long Summits, and succeeded by a threesquare Fruit, divided into three Pouches, large in proportion to the Flower, but both very little in respect of the bigness of the Plant, fill'd with a great many flat Seeds.

Structure and Manner of Nourishment.

The Structure, or rather Texture of the Leaves, is either more Vascular and Fibrous; more Vesicular and Cavernous, or equally both, tho' this third kind be less frequent.

The Vascular are those whose Leaves consist of a congeries of Paralel, Longitudinal Fibers passing from the Root to the Extremity. The Vesicular and Cavernous, when several large cavous *Tubuli* pass longitudinally along the outer part of the Leaf within the common Membrane, which deserves not the Name of Bark, and when all the inner Substance is filled up with a transparent Juice. The third kind is, when the outer Substance is compos'd of several rows of these paralel *Tubuli*, and this viscid Juice possesses the middle part of the Leaf.

By the Vascular Substance I understand those Leaves, which when wholly compos'd of these paralel, longitudinal Fibers, either bound up into *Fasciculi* or Bundles, or separately dispos'd along the sides of each other, do receive the Nutritive Particles from the Root, and convey them to the Extremity, and carry back what is Superfluous towards the Root again; and by other Fibers of the same Situation, in order undergo a second, or as many subsequent Circulations as are requisite for encreasing the bigness, or preserving the Oeconomy of the Plant by attenuating the grosser, preparing the more *Resinous*, and separating the more *viscid* and *aqueous Particles*; and this is for the most part observable in the largest species of *Aloes*, whose Leaves are usually broad, flat, long, pointed, more or less prickly, and either of a pale Green, or speckled Colour.

The Vesicular and cavernous Kinds, receive the *nutritive Particles* from the Root, by the forementioned *Tubuli*, which are more cavous, and much larger than the former, not unfitly to be compar'd to the Pipes and Stops of an Organ; where the grosser and more *resinous Particles* still remain, and whence is discharg'd by the Extremities, the superfluous, *aqueous*, and *viscid Particles*, which by degrees distend the Vesicles and Bladders containing this viscid Substance, and render the Leaves of the lesser and least Species so very thick, round, square, triangular, and many other different Figures, with a white, sky-blew, blewish, or plain Green, agreeable transverse

verse variegation of Speckles, and plain, or with more or less numerous longer or shorter Prickles.

The Structure of the third kind, is when two, three or more rows of these cavous *Pipes* possess the external part of the side of the *Leaf* towards the Circumference, and its opposite side towards the *Center*; and when the middle Substance, which thickens the *Leaf*, is fill'd up with this viscid and limpid *Juice*: From this Idea of the Structure of these *Leaves*, I proceed to explain the several *Phænomena* of this Plant, such as 1. How it can live, being nourished by so small a quantity of Earth, that if of any Age it will even exceed the weight of the Earth, in which it grows. 2. How it comes to live in the Air without any supply of Earth at all. 3. Why of so slow a growth; and 4. How it comes to live to so great an Age.

For the first it is chiefly owing 1. To the strictness of the Pores of the external Membrane, by which none of the Particles it receives from the Earth, whether Nutritive or otherwise, are Evaporated. 2. To the viscosity of the Juice by which its incapable to perspire or pass through so very minute Pores; and 3. Its exceeding the weight of the Earth in which it grows, must needs proceed from certain extraneous Particles introduc'd into the Earth, when either the Earth or Plant is bedew'd with the Water; for let the Element of Water be never so Pure, there are always some active Particles fit for Vegetation convey'd along with it, which being once receiv'd into the Body of the Plant, and introduc'd into its Substance, and there being no Means to exhaust it, both bulk and weight of the Plant must by degrees be augmented. And I am credibly inform'd where the Aloes is Indigenous, it never Rains, but a balsamick Dew distills upon it every Night, and furnishes it with sufficient moisture for its Nourishment.

It may be justly called *Semper vivens, quia humanam ætatem superat*, for if any of these Plants be older than any Man alive can remember, and if it can live till he is dead in respect of such an one, it may be call'd Ever-living; and no doubt such Plants as are us'd for extracting the *inspissated Juice*, must have their *Leaves* very large to furnish such an abundance of it, and of a very old date before they can be so big, because of the slowness of Increase. We are inform'd, most of the *Aloes* have their native Soil by the Sea, and on Sea-coasts, a proper Climate for furnishing of this viscid Juice; for not to speak of the *Algæ* and *Fuci*, which are all viscid, succulent, Sea-plants, the very Rocks where the Sea-water do's not reach, has a moist, viscid and lubricid Surface, proceeding from the viscid Steams arising from the Sea, which as is observ'd, falling upon the circumjacent Earth, and being receiv'd by the Pores at the extremities of the Fibers of the Root, become proper Nourishment to this Plant, and being no
wise

wise fucceptible of Evaporation, do by degrees augment its Bignefs, and even exceed the Weight of the circumambient Earth.

Semper virens, This is common to it, and a great many Trees and Shrubs, whose Surface is always Green, not to fay, that their Leaves laft perpetually, but that the old ones never decay, until they be fuccceded by new ones ready to fupply their Place; this alfo happens to the *Aloes* fufpended in the Air, for no fooner do the Leaves in the Circumference begin to decay, than fresh Leaves in the Center are push'd forth according to the feafon that the Leaves of the Ever-greens perish, which is ufually in the Month of *April* and *May*, as I have obferv'd upon tryal of the Experiment, of hanging of an *Aloes* Plant in the middle of a large, well-air'd Room, with an old Cloath wrapt round its Root to prevent the Juice from Evaporating, and the Fibers from being dry'd up.

Its being of fo flow a Growth, muft proceed from the foregoing Hypotheses of the Vifciduity of the Particles, which when the Plant chances to live in an impoverish'd Earth, unable to furnifh any more nourifhing Particles, or when being depriv'd of the nourifhing Earth, by being fufpended in the Air, this Sap Circulates but very flowly, and with much ado is capable of keeping the Veficles and Veffels diftended, without being able to ftretch them farther by an additional fupply of Nourifhment, which affords a good proof for the Circulation of the Sap in Plants, as well as of the Blood and Humours in Animals; for nothing is more plain, than if the Particles in the *Sap-veffels* in *Plants*, *fanguinary Veffels* in *Animals*; and *Tubuli*, which contain the *Humours* in the *Exanguis* kind once ceafe to move, the Fluid ftagnates, and the Subject dyes, becaufe there is a *Solutio continui*, a Diffolution and Separation of the Particles of the Liquor: the more grofs and vifcid frame the *Coagulum* and *Crassamentum*, and the more ferous paffing through the more narrow Channels, fuffer the more grofs to remain. This fhews what fpecial care ought to be had in the culture of the *Aloes* in thefe cold Climates, *viz.* That it be feafonably expos'd to the Heat, and Air in the Summer, timely taken into the Green-Houfe in the Autumn, conveniently bedew'd with Moisture, neither expos'd to too much Cold to congeal its vifcid Juice, nor too much Heat to rarifie its more fubtile Particles; neither muft it have too much Earth to furfeit it, nor too rich and fat to afford more nutritive Particles than its *Tubuli* are able to receive, for then its in hazard of being kill'd by a *Plethora*.

I proceed to a more narrow Confideration of the Confiftence of this *Sap*, which is twofold, *thick*, *whitish* or *yellowish*, and *bitterish*, or *thin*, *viscid*, *limpid* and *waterish* tafted. The firft is contain'd in the *paralel Tubuli*, and chiefly obfervable in the larger kinds with broad *Leaves*; the other is de- pofited into the *Celluls*, fituated in the middle of the leffer *Species*. Thefe

Celluls are a Contexture of so many longitudinal and transverse, thin, and delicate *Membranes*, which intersect each other, and seem to have an *Hia-tus*, by which this *limpid Sap* is convey'd from the one to the other. And here I cannot but observe an Analogy betwixt the Plant *Aloes*, and the *Spleen* in *Animals*. The *Spleen* has but one thin, flaccid, loose Membrane, with an *Artery*, which distributes more Blood into it than is requisite for its Nourishment: This *Artery* passes no further than the outer Coat, but discharges the Blood into the inner Substance, which being compos'd of an infinite variety of *Celluls*, the Blood passes from the one to the other, until it return to near the place where the *Artery* enter'd, and is there receiv'd by the *Veins* according to the different species of *Animals*, whence its convey'd to make up a Root of the *Vena porta*, before it enter the *Liver*. The use of the *Spleen* is reasonably suppos'd to be for Secretion of the *Lymph*, by the *Lymphaticks*, to be convey'd and mix'd with the *Chile* in the *receptaculum commune*, while the Blood is enliven'd by a large Nerve to quicken its Motion, and advance its Circulation when mix'd with the Blood from the other Roots of the *Vena porta*, the better to enable it to undergo the separation of the *Bile* in the *Liver*. The *Leaf* of an *Aloes* Plant on the other hand, receives its Sap by these external, large *Tubuli* in its fore and back part, and conveys it to the Extremity, where its discharg'd into these *Vesicles*, from whence tis convey'd from one to the other, until it return towards the Origine of the *Leaf*, where it undergoes a second lent Circulation, and soon. During which time the grosser and thicker Particles are separated, receive in, and adhere to the sides of these large cavous *Tubuli*, being unable to proceed farther, while the thin transparent Juice remains always in the middle-part of the *Leaf*, and the thick keeps still towards the Sides. The thick is the *resinous* Part, of which the inspissated Juice is compos'd; the thin is the *serous* Part which is evaporated by the Sun, while the Juice is a thickening; for the proof of what is asserted, I give the following Experiments.

1. A Plant of *Aloes* being three Years suspended in a large well air'd Room ev'ry Spring, the outer Leaves wither'd and decay'd, by which the Sap being deny'd access into the mortify'd *Leaf*, and being straitned in its ordinary Bounds, exerted it self more vigorously in the Center, and there push'd forth new Leaves, it had been suspended two Years before I had it. I observed it to decrease it its Weight, by the falling off of the dry'd Leaves, and having no new supply of Nourishment. It at last dy'd of a *Marasmus*, as it may be call'd.

2. A dark-green narrow-leav'd *Aloes* with long Prickles, in Dr. *Udal* of *Enfield's* Garden ev'ry Spring, distill'd clear Water from the Prickles, which had it been contain'd within the capacity of the *Tubuli*, must have choak'd the Plant.

3. A Plant of an Hedge-hog *Aloes* in Mr. Fairchild's Garden, was observ'd by his Wife, to be as wet as if dipt in a River, though in a dry Green-house, and complain'd of it—to her Husband, suspecting it to be sick, which he found to be true, for before next Morning it was dead. That ingenious Gardiner is of Opinion, that had he cut off some of the Leaves, or made a small Incision in each of them, he might have sav'd the Plant, as we use to bleed in a *Plethora*. See Preface to my *Botanick Essays*.

4. Cut a Leaf of a Fibrous broad-Leav'd *Aloes* transversely, you may observe the outer part sweating a yellowish, the mere inner a whitish, and the middle a limpid viscid Juice.

5. Cut the Leaf of a small, thick, succulent *Aloes* transversely, and look through it from one end to the other, and you will observe it transparent like Oil of Turpentine through a Bladder, or Varnish through a Phial.

6. Cut the same Leaf into a thin Slice, and by a Microscope you may observe the Cavous *Tubuli* in the outpart, and the thin longitudinal *Septa* making up the inside, in the appearance of so many dark Lines, N. B. the Juice in the outer *Tubuli* is yellowish, the inner Transparent.

7. If you cut the Leaf when growing, the Juice in the middle will be fluid, and ready to drop out, let it remain some time, it will be congeal'd like Blood in a Porringer.

8. Stretch the thin transverse slice with Pins, to preserve it from shrinking upon a white Paper, and you may observe when it is dry'd, these thin *Septa* like the Veins of a Leaf, while the intermediate Juice is Evaporated, and the transverse *Septa* transparent as the thinnest Bladder.

Concerning the manner of procuring the inspissated Juice.

I had made the foregoing Experiments some Years ago, before I had consulted *Muntingius* his *Aloidarium*, * and am glad to find that these my Experiments seem to agree so exactly with what he has asserted from *Columna*, who flourished in the latter end of the 16th and beginning of the 17th Centuries, and has the Character of one of the most curious Botanists of any former, and perhaps after Ages. Being desirous at *Naples* to find out the true Method of procuring the Gum, and doubting whether this was the Plant from which so noted a Simple in the *Materia Medica* was procur'd; he cut into small pieces a Leaf of the Plant, and some part of the Root he found nothing of that bitterish Juice, but a certain mucous Substance

* *Munting. Aloidarium*, p. 24. *Amstel*, 1682.

of an insipid Taste. Therefore having cut off several of the Leaves for Experiments sake, it came in his Mind, that this Juice might not proceed from the carnosus Part, or *Parenchyma*, but from the Veins (which I call the *Tubuli*) upon the Observation of which, tearing some of the Leaves fresh from the Root, he found a little of a yellow Juice to flow from the Orifices of each of these Veins, and saw it distill by so many drops. upon repeating the Experiment, he became assur'd that this must only be the yellow venal Juice, which being afterwards inspissated by the heat of the Sun, becomes what is called the *Gum Aloes*; wherefore having suspended several of these Leaves above a glas'd earthen Pot, he observ'd this yellow Juice to distil naturally from the Veins, and even he could press and squeeze it out with his Hands. Having thus obtain'd a sufficient quantity of Juice, and expos'd it three Days to the Sun, and stirring it so, as what thicker parts adher'd to the Sides, might be mix'd with the thinner part in the middle frequently in the Day time, and exposing it to the cool of the Evening, he found ev'ry Morning a friable compleatly thickned Juice. The Colour declin'd from an Orange, to a more dark, a little reddish, and at last quite black like a Liver.

This Experiment is so very answerable to my Opinion, that its the fibrous broad-leav'd *Aloes*, prickly or not prickly, that furnishes most of the Gum; that though these Veins in the lesser Species may contain a smaller quantity of this bitter purging Substance, yet their Thickness and Bulk is chiefly stuff'd with this lymph or gelly Substance fit for no Use; but that all the Species of *Aloes* according to the quantity of these Veins, afford more or less of this more useful concreted Substance.

VIII. *Alsine*.

Alsine Media, C. B. P. 250. Moris. Hist. 2. 550. vulg. *sive Morfus Gallinae*, J. B. 3. 29. 363. *Minor* Dod. pempt. 29. Tournef. 242. Boer. Ind. 1. 209. Raij Hist. 1030. Common Chickweed.

The *T R I B E*.

This is the first *Rosaceous*, or *Rosy Flower* the Alphabet affords, whose Definition according to *Tournefort* (the Author of that Name) is, that they consist of several *Petals* disposed in a Circle round the *Stamina* or *Chives*, as in a *Rose*. Their Number is not necessary to be regarded, but their Disposition, for this is certain, that uncertain; they seldom consist of two *Petals* (of which there is only one, though not *Officinal*, viz. *Circea*) or four, as in *Papaver*: commonly of five. Those which exceed this Number, are called *Polypetalous*, with many *Petals*, as varying in the Number.

Alsine

Alfine is called, by *Morison* *pentapetalous*, and *unicapsular* : *enangiospermos*, and *vascular*, by *Ray* : and *monangiospermos*, by *Boerhave* ; that is, whose *Seeds* are contained in a *Seed-vessel* with one *Pouch* ; for according to the Number of the *Pouches* in the *Seed-vessels*, they are called *Monangie*, *Dian-gia*, *Triangia*, &c. According to the Number of the *Seeds*, they are called *Monosperma*, *Disperma*, *Tetrasperma*, &c. and according as they are *naked Seeds*, or included in a *Seed-vessel*, they are called *Gymnosperma*, or *Angiosperma*.

The Description.

It's a small *Plant*, with low, creeping, infirm, brittle, jointed *Stalks* ; dispersing numerous *Branches*, not ascending (from a small annual fibrous *Root*) above half a Foot high, having two small, roundish, or pointed *Leaves*, arising by Pairs from each Joint ; and several small *Rosaceous pentapetalous white Flowers* (the *Petals* are bifid, which Note distinguishes this *Genus* from *Spergula*, the *Petals* of which are entire) on the Top surrounding three, four, or more, *Chives* with double *Summits*, and contained in a five-leav'd, deep divided *Empalement*, to which succeeds a small oval or conical *unicapsular Fruit* or *Seed-vessel* opening at the Top, and shedding many small, round, brownish *Seeds*. It flowers all the Summer, and delights in moist Places, and fat Ground of well manur'd Gardens.

Virtues and Uses.

Chick-weed is probably so called, from the great delight Chickens have in it. It's so low, tender, and of so soft a taste, that they pick at it greedily, even from their breaking the Egg shell. It's moderately astringent, and therefore may be boyl'd with good Success in Chicken-Broath to consumptive Persons ; for such Plants as consist of temperate, astringent and absorbent Particles, correct the Acrimony, curb the Serum, and more compactly unite the few balsamick Parts which remain in so sharp a Blood as consumptive, hectic and phthysical Persons are for the most part corrupted with. Hence it is, that these moderate Astringents may be justly esteem'd good Vulneraries, for externally apply'd to Wounds, they blunt and sheath those sharp and cutting Salts which are the causes of those acute Pains felt at the first and second Dressing. They restrict the capillary Vessels, so that the thin, ferous, and ichorous Matter ceases to flow out in such abundance, and the balsamick parts of the Blood being only discharg'd into the Wound, is soon converted into what is called *Laudable Pus* ; and inwardly given, they correct the acrimonious Matter especially in the Lungs, whose tender Texture is soon vitiated, and made capa-
ble

ble of Exulceration. Thus the distill'd Water of *Chick-weed*, or an Infusion of it in Wine, is much commended in hectick Cases; it's said to be good for the convulsive Fits in Children, by giving a Dram of the Powder frequently. By its moderate Astringency, it's capable to restrain the immoderate Flux of the Hæmorrhoids, and ease the Pain; the Juice is vulnerary and deterfive, and recommended for cleansing the Mouth in case of the *Apthæ*; apply'd to the Breasts, it dissolves grumous Milk, and curbs too great an abundance of it. In a Word, it performs the Office of most of the other temperate Astringents, but (whether because of its being so common I know not) it is but seldom used in Physick.

Althæa vide *Alcea*.

IX. *Amaranthus*.

Amaranthus simplicifolius panicula, C. B. P. 121. Tournef. 235. *purpureus* J. B. 2. 23. 968. Raij Hist. 202. *Maj. paniculis surrectis rubris* Moris. Hist. 2. 602. *spicatus*, Boer. Ind. 98. Floramour or Flower-gentle.

The *T R I B E*.

Dr. *Morrison* seems to be the first who determin'd this a *pentapetalous Plant*, but look'd upon it as so near a kin to the *Apetalous*, that he places it the last among the *Pentapetala*; and the *Atriplex* the first among the *Apetala*. *Tournefort* makes it a *rosaceous Flower*; but neither *Ray* nor *Boerhave* have follow'd him in that. Indeed according to *Tournefort's Rule*, that the *Apetala* are *gymnomonosperme*, whose *Empalement* becomes the *Husk* to one naked *Seed*; this cannot be look'd upon as such, for 'tis plainly *Angiopolyspermos*, whose *Seed-vessel* contains many *Seeds*; but if we consider, that they are *petala non caduca*, since they do not fall off, its a Matter indifferent whether they ought to be called *Petals* or *Leaves* of the *Empalement*, especially since they are not strictly speaking *colore insignes*; for it is not the *Flower* alone, but the whole *Spike* or *Coma* that becomes conspicuous, purple or red, or whatever other Colour. It's true, the like happens to the *Horminums*, but then they have regular *monopetalous Flowers*, and distinct *Empalements*, whereas here either the *Empalement* or *Petals* are wanting.

Description.

It's an annual *Plant*, arising to two Foot and higher, according to the Soil, with a *straight, striated, branched Stalk*, large, alternate greenish, and sometimes

times purplish *Leaves*, broad at the Base, and pointed at the Extremity; with equal Edges; the Stalk terminates in a pretty long Spike, in some Species erect, in others dependent, thick set with *rosaceous* or *apetalous* *Flowers*, consisting of five oblong, narrow, pointed *Petals* or *Leaves* of divers Colours along with the Spike. The *Chives* arise in the middle, united at the bottom of the Flower. The *Stylus* somewhat forked at the Top, becomes a round, inclining to an oval, *Seed-vessel*; opening transversely when ripe, and pouring out several redish or white shining *Seeds*. The Spike if early pull'd, will keep the Colour a long time without fading, neither do the *Petals* or *Leaves* of the *Empalement* ever decay when the *Seeds* are ripe. Its sown in Gardens, and flowers in July and August.

Though I have only given the *Synonima* of the *Amaranthus purpureus*, there are several other Species to be had among the Florists, all which serve for the same Purposes.

Virtues and Uses.

Floramour is but of little or no use in Physick, it's generally esteem'd a potent *Astringent*, and is capable of producing the Effects as such, (*viz.*) discussing of Tumours, and abating of Swellings, being apply'd either in Juice or Fomentations externally, and in *Diarrheas*, *Dysenterys*, spitting of *Blood*, *Hemorrhagies*, *Hemorrhoids*, and *fluxus mensium nimius* being internally given in Powders; it seems to partake of the same Virtues with *Plantain*, is fit for the same Uses, and may be look'd upon as near of kin to it by the *Spike*, by the texture of the *Flower*, (though the one be *monopetalous* and the other *polypetalous*) and by the *Fructification*; the Figure and Manner of opening of both *Seed-vessels* being the same. This *astringent* quality is very discernable by the Taste, and by the Tenacity of the Colour, which like those artfully engrain'd by potent *Astringents*, is a long time before it fades, as we see in the *flores Balaustiorum*, so well known for its *Astringency*, and for the Durableness of its deep red Colour.

X. *Ammi*

Both by the Alphabet and *Tournefort's* Example, comes next to be considered, being the first of that large and conspicuous Tribe of *umbelliferous* *Plants*, early class'd together by Authors, especially *Casalpinus*, and the two *Bauhini*; but first of all brought into a regular Distribution by the celebrated Dr. *Morison*, improv'd by Mr. *Bobart* his Successor, alter'd by Mr. *Ray*, *Rivini*, *Tournefort*, and brought to great Perfection by the assiduous and diligent *Boerhave*; and there is hopes this knotty Class will yet be

be more unfolded, when the long look'd for *Pinax* of the celebrated Dr. Sherard, which I hear is in great forwardness, shall see the Light.

Umbelliferous Plants may be consider'd either in a larger or stricter Sense, viz. As to the *Disposition* of the *Flower*, any Number of small *Flowers* placed in a *Tuft* upon the Top of a *Stalk*, each having its proper *Foot-stalk* all arising at the same Place from the common flow'ring *Stem*, and dispos'd in a *Circle*, may be call'd an *umbelliferous Plant*; but then *Tanacetum* a *corymbiferous Herb*, and *Sambucus* a *bacciferous Tree*, may be look'd upon as such. The word *umbelliferous* has a threefold Origin; 1. From *Umbrella*, with which Women use to defend themselves from the heat of the Sun, and from the Rain. This regards all *Tufts* with a plain, flat Surface. 2. From *Umbilicus* a Mans Navel, because several *Tufts* are concave or hollow in the middle as the *Daucus* or *Carrot*. 3. From *Umbo*, the Protuberance in the Center of a Target. All the globular and convex *Tufts*, may be derived from this, as *Angelica*, &c.

The more strict, genuine, and modern Notion of an *umbelliferous Plant* is, that it have a *pentapetalous*, small, (which *Tournefort* is pleas'd to call) *rosaceous Flower*, frequently gathered in a *Tuft* above without an *Empalement*, the *Petals* surround five *Chives* with proper *Summits*, they soon fall off, and are succeeded by two *naked Seeds* closely united while green, but separating by degrees as they ripen. The accurate *Boerhave* gives an agreeable account of the *flowering* and *Fructification* of this Tribe, which I deliver in his own Words; ' The Top of the flowering Foot-stalk, supports the ' *Ovarium* or *Seed-case*, consisting of the *Rudiments* of two *Seeds* strictly ' united when green, by a smooth, flat Surface, separating as they ripen, ' but still tied to small Threads, which arising from the Top of the *Foot-stalk*, lie hid betwixt the *Seeds*, and are inserted in their upper part, ' where there is a fungous Balsamick, and somewhat gross *Placenta* divided as the *Seed-case*; whence arise the *Tube*, *Stylus* or *Pointal* with a ' round *Button*. The *Seeds* (where united) are plain and smooth: On the ' outside gibbous, convex, striated or furrowed, sometimes round and globular; some are compress'd, more flat and smooth on both sides.

The *Petals* arise from the *Articulation* of the *Placenta* with the *Seed-case*, some white, others yellow, and a few red or purplish. 1. Small, oblong and pointed. 2. Narrow, bifid or forked. 3. Broader and Heart-like. 4. Uniform all of an equal Shape and Bigness. 5. Difform some larger, others less in the same Flower. 6. Bended inwards, or wrapt up like a Scroll, as in the *Feniculum*. They have no *Empalement*, are endow'd with five *Chives* (with their proper *Summits*) arising betwixt the *Petals* and the afore-said *Articulation*; they are for the most part *Hermaphrodite*, but sometimes *Male flowers* are intermixt in the same *Tuft*.

Before I proceed, I think fit, by way of Digression, to explain some *Technical Words* in *Botany*, made use of by *Malpighi*, *Tournefort*, and especially the accurate *Boerhave*; since the Doctrine of the *Sexes* in *Plants* came to be so far advanc'd, as is to be seen in the fourth of my *Botanick Essays*. The Words are *Embryo*, *Placenta*, *Ovarium*, and *Testes*.

Embryo in *Animals* is the first *Rudiments* or *Lineaments* of a *Fœtus*, before the parts are perfectly form'd, or if form'd, before they can be well discern'd; and in the *Seeds* of *Plants*, they are the bare empty *Husks* of the same Shape with the future *Seed*, placed below the several *flourishes* and *half-flourishes* in the *Corymbiferous*, *Flosculous*, *Semiflosculous* and *Radiate Plants*, and when these decay, and the Dust is shed from the bifid Pointal (as has been observ'd when I discourse of the *Corymbiferous Plants*, Decad. I. p. 9.) these *Embryons* swell: the *Radicle* and *Plume*, with the other *Lineaments* of the *Fœtus* of a new *Plant* are form'd, become hard and firm, and the *Seed* is ripen'd; or in the *Pod* of the *papilionaceous* and *tetrapetalous Flowers*, where as soon as you can open it, you may observe the *Embryons* plac'd in due order at the back part, or betwixt the two *Valves* or *Sides* of the *Pod* where the first *Lineaments*, as soon as the *Pod* will admit of opening, only appear in the diminutive Shape of the *Seed*, and are (as it were) an empty *Shell*, until after *Impregnation* of the *Maledust*, the inner Substance is completed, and all the *Lineaments* of the future *Plant* are form'd in the *Seed-Leaf*.

Placenta is not unknown to *Anatomist*, and other *Natural Historians*, to be that part of the *Secondine* in *Women*, which being coherent and contiguous to, but not continuous with the *Uterus*, is a preternatural Dilatation of its *Capillaries*, which first forming an adventitious, carnous Substance, are again dispers'd from so many *Roots* to other larger *Trunks*, at last united into one *Umbilical Artery*, by which after the *Blood* has been diffused into the several parts of the *Fœtus*, the remainder is carry'd back by the *Umbilical Vein* to the *Placenta*, and from thence to the *Uterus*, there to partake of the common Circulation throughout the Body of the Mother. The Parallel is the same in the *Seeds* of *Plants*. In the forementioned *Corymbiferous*, &c. *Plants*, the *Placenta* is placed in the bottom of the *Flower* within the *Empalement* v. g. in *Dens Leonis*, and others of the *pappous lactescent* kind, (when the *Seeds* like a *Bird* ready to fly, have got their *Wings*) the membranous bottom of the *Flower* is as it were a *Nest* deserted, having several *Depressions* where the *Seed* had been seated, and from whence they had receiv'd their *Nourishment* convey'd by the several *Tubuli* from the common *Foot-stalk*. The sides of all the *Pouches*, *Cells*, or *Divisions* in the *Capsular*, or such *Plants* whose *Seeds* are contain'd in *Seed-vessels*, are so many different *Placenta's*, and no where are these *Placenta's* with their proper *Navel-strings* more observable than in the *Pods*

of *Peabloom Flowers*, where the *Umbilical Rope* consisting of several parallel Fibers running longitudinally from the *Pedicle* along the back part of the *Pod*, and at certain Distances sending forth a *Placenta*, to which the future *Seed* is to be annex'd, with which it's constantly adherent, by which it receives its Nourishment, and from which it never separates until needing no further Supply; it naturally falls off bearing an exact Analogy to the *Cotyledones* dispers'd at several Distances along the *Chorion* in the *Uterus* of *Cows*, and other *Quadrupeds*.

Testa is so called, from the *Testæ* in Animals, which elaborate the *Male-seed*; for this *Testa* (one continued *Knob* frequently distinguished by a *Septum*, a Partition-Wall as it were) is for the most part divided into two *Celluls*, and therefore may be called *Testes* as in Animals, is variously situated upon the top of the *stamen* or *Chive* (some being *Horizontal*, others *Perpendicular*) and of various Figures (some being *round*, others *oval*, more *oblong*, *quadrangular*, &c.) contains that which is called *FARINA FOECUNDANS* the *Male-dust*, which as soon as the Flower is blown, is shed from these *Testæ*, which being then swell'd to their full bigness do burst, and thereby this *subtile Powder*, *Pollen* or *Dust*, is dispers'd over the *Ovarium* or *Vasculum Seminale*, where it emits its prolifick Virtue, and impregnates the *Ova*, which soon become *Embryones*, and which in a short time do encrease to a perfect ripe *Seed*. This has hitherto been called *Apex*, is frequently of a different Colour from the *Petals* or *Stamina*. In the sequel of this Discourse, I design to call it sometimes *Apex*, *Summit* or *Top*, and, as occasion requires, the *Testes*.

Ovum and *Ovarium*, Words frequently used by *Malpighi*, and from him by *Boerhave*, when obliged to express my self so for the farther Illustration of the Subject in hand, I chuse to call it *Seed-case*, which may seem improper here, when all the *Umbelliferous* are look'd upon as *naked Seeds*; but if we consider there is scarce any such as a *naked Seed*, for most of them have their *Rind*, *Bark* or *Coat* which is hard, and defends the inner Kernel from the Injuries of the Air, and therefore may be properly called the *Seed-case*, which is only an empty Husk before Impregnation, soon becomes a Nest for the *Embryon*, and still continues a distinct Body from the *Seed* when ripe; and therefore *Tournefort* observes in *Angelica*, and several other *Umbelliferous* Plants, *quod involucrium facile deponunt*, their outer Coat can soon be remov'd; and this not only obtains in those commonly called *naked Seeds*, but also in most *Capsular Seeds*; very observable in the larger kinds, as in *Pease*, *Beans*, and other *Leguminous Plants*: Indeed there are some of the *Cerealia* the *Corn* kind, where this outer Coat is more firmly adherent, as in *Wheat*, *Barley*, *Rye*, but these are so well guarded by the *Gluma* the Chaff, that to defend them more from the Air does not seem needful, but
when

when they begin to bud, they quit this outer Coat, as a Chicken does an Egg-shell.

To conclude this Digression: When I am to use the word *Embryo*, I shall rather chuse to engross it into an *English Phrase Embryon*, as some others have done, than to call them the *Rudiments* or *Lineaments* of the *Seed*. When *Placenta* comes in the way, I shall retain the Name rather than *Mother-Bed* or *Couch*, for it will not admit of being call'd *Secundine*. *Ovum* shall always be call'd the *Seed* in *Plants* by me, and for *Testes* and *Ovarium*, the one shall be *Apex* or *Summit*, and the other may be better understood by *Seed-case*, than *Ovarium*. There is another kind of *Apex* different from that upon the *Top* of the *Stamina*, (*viz.*) that which terminates the *Stylus* or *Pointal* in the center of the *Flower*, which I shall distinguish by the name of *Button*; but of this we shall discourse more hereafter. See the first of my *Botanick Essays*.

There are several other *distinctive Notes*, by which the *Umbelliferous Plants* may be easily known, such as their *Roots*. 1. *Annual*, and *fibrous*, 2. *Biennial*, more *parenchymatous* or *carnous*, (I call that a *parenchymatous* or *carnous Root*, which is either *simple*, or *divided* into large, thick, gross *Portions* of a soft, and, as it were, *fleshy Substance*.) 3. *Perennial* with large *Roots*, sometimes hard and *knotted* as *Imperatoria*, but rarely; their *Leaves* are for the most part very large, and always *alternate* when they arise from the *Stalk*; few are, 1. *Simple*, most part *Compound*. 2. *Pinnata* having several pairs of *Leaves* joyn'd to a *mid-Rib*, always terminating in an odd one, which however divided and subdivided, still happens to the *Leaves* of *Umbelliferous Plants*. 3. *Trisariam divisa*, triply divided, and often subdivided. 4. *Lobata* variously divided into larger *Lobes* and *Portions*. 5. *Plurifariam & Multifariam divisa*, variously divided into lesser, broader, and shorter *Segments*. 6. *Fœniculacea tenuissime divisa*, divided into long, narrow, small, thick or thinset *Segments*, like unto *Fennel*. Their *Surface* is for the most part *smooth*, sometimes of a lighter, but more frequently of a dark *Green*; the *Stalk* is generally *erected*, *striated*, *hollow* and *jointed*. The variety of their *Seeds* by which they are distinguished into Method, according to the different Sentiments of *modern Authors* shall be declared, when I come to Discourse of the separate *Plants*.

The last general Consideration is their *Virtue*. 1. They chiefly consist of *tenuous* and *subtile Particles*, are great *incisers*, *discutient* and *carminitive*, especially the *crested Seeds*, according to Dr. *Herman*, *Omnia semina striata sunt carminitiva*.

I have insisted more largely on this general *Idea* of an *Umbelliferous Plant* here, because the *Alphabet* leads me to treat of several of that Tribe in this Decad.

Ammi is so seldom us'd in Shops, and so rarely to be seen in Gardens, that were it not reckoned among one of the lesser hot Seeds in the Dispensatory, It might have been omitted here. *Dioscorides*, and his Contemporaries, were so superficial in their Description of *Plants*, that they only left it to their Successors to guess what they meant. Hence it is that the *Ammi veterum verum* is scarce, or not at all known at present, though *Mathiolus* Epist. lib. v. says it was found out in his Days, which we may suppose was about 1550 or 1560. for after having been Physician to *Ferdinand Archduke of Austria*, he dyed 1577. Now though *Tournefort* looks upon him as a very credulous Author, we are not to imagine he would have said, p. 190. Epist. *Ammi verum nemo jam fere est qui non noverit, revixit enim nostra etate, ejus imaginem ad vivum delineatam spectare quis poterit in nostris in Dioscoridem comment.* 'Every one says, he now knows what the *Ammi verum* is, for it was revived in our Age, and its Figure taken from the Life, is to be seen in our Commentary on the third Book of *Dioscorides*'; I say, none would look upon him to be so impudent as to assert this, without very good Reasons. This has moved me to treat in this Place of the *Ammi vulgare*, as recommended by the London Dispensatory, and either the *Ammi odore origani* or *Ammi parvum folijs feniculi*, C. B. P. delineated, *Bauh. in Mat.* 558. for the *Ammi verum*: though the genuine Seeds of the two last are rarely to be had in Shops; *Weykerus* says, it's shewn by some with Leaves finer than those of *Fennel*, and with very small Seeds like *Cumin*; but it does not in every Circumstance answer the Description of the Ancients'; *Renodeus* says, its Seeds smell much of *Origanum*, both which confirm what *Mathiolus* has said concerning them.

1. *Ammi Majus*, C. B. P. 159. *Tournef.* 304 *vulg. maj. fol. latioribus sem. minus odorato*, J. B. 3. 27. *Moris. Hist.* 3. 295. *Dod. pempt.* 301. *Raij Hist.* 455. *Annum vulg.* *Moris. Umb.* 21. *Boer. Ind.* 57. Common Bishops Weed.

2. *Ammi odore origani*, J. B. 3. 27. 25. *Hist. Oxon.* 3. 295. *alterum semine apij*, C. B. P. *Cret. Raij Hist.* 455. Bishops Weed of Candy.

3. *Ammi parvum fol. fenic.* C. B. P. *Bauhini in Math.* 558. *Hist. Oxon.* 3. 295. *verum Gesner. hort. perpusillum Lob. Icon.* 785. *Ger. Emac.* 1037. *Fœniculum annum Origani odore*, *Tournef.* 312. *Ammoides Boer. Ind.* 1. 49. True Bishops Weed.

T R I B E.

These are class'd among the umbelliferous Plants, with variously divided Leaves, and small striated Seeds by Dr. *Morison*, among the smallest, striated, short, tumid Seeds by Mr. *Ray*. *Tournefort* is inconsistent by his Distribution

distribution : for the *Ammi Maj.* is class'd with those of a very small crested Seed, and the *Ammi fol. feniculi* among the *Fenicula*, as having a narrow, oblong, and pretty gross Seed, which is justly corrected by Boerhave, who calls it *Ammoides*, as partaking of both the *Ammi* and *Feniculum*. For by what I can observe, an *Ammi Leaf* has a *mid Rib*, and the *Pinne* arising equally from it by Pairs, but a very small *Flower*, and fine small *Seeds*; whereas a *Feniculum* has its fine, narrow, deep divided, long, thinset Segments, arising irregular from the *mid Rib*; nor can this last be a *Feniculum*, because its *Petals* are plain, white, unequal in respect of each other with very small *Seeds*; a *Feniculum* has yellow, wrapped up, equal *Petals*, with a long, narrow, large, striated Seed. Rivini says, they have solid, very small *Seeds*, somewhat hairy, the second is either neglected, or forgot by Tournefort, whether he has look'd upon it as the same with the *Ammi parvum fol. feniculi*, I know not; but Mathiolus gives two quite distinct Figures of the Second and Third: Rivini gives a good Figure of the *Ammi maj.* and seems to delineate the *Ammi fol. feniculi* by the Title of *Ammi minus*.

The Description.

These Plants being hitherto unknown to me, I take their Description from the most approved Authors.

The first has long, serrated, or crenated, compound Leaves, divided chiefly into three pair of Segments; those at the bottom broader, and encompassing the Stalk, the upper longer, narrower, and more deeply divided. On the upper part of a strait, round, channel'd Stalk, (two or three Foot high) and Branches are plac'd pretty large, flat Umbells with white Flowers, and unequal Petals, viz. two larger, three less, to which succeed small, crested, bitterish Seeds, about the bigness of those of Smallage, but more tumid. Its an annual Plant, and cultivated in Gardens.

The second has very much branched, striated, joynted Stalks; the lower Leaves broad, the upper longer, more narrow, and much more finely divided; the Umbells very numerous, and white Flowers very small; the Leaves when rub'd have an high scent of *Origanum*, and the small, striated, tumid Seeds extreamly Aromatick and hot tasted, the Seeds are imported from Syria, and the Island of Candy.

The third arises one or two Foot high, with a small, brittle, Fennel Stalk, has variously divided Leaves like unto Fennel or Dill, but with deeper and finer Segments; the small Umbells consist of very small white Flowers with unequal Petals; the Seeds are extreamly fragrant, less than those of Candy, and of a somewhat weaker smell. The little Root is small and woody.

Virtues and Uses.

Ammi Seeds consist of tenuious and subtile Particles, by which they are attenuating, Discutient, and inciding; good in Collicks and other flatulent Distempers: they provoke *Urine*, and the *Menses*: formerly they were prescribed in most of the laborious *Antidotes* and *Opiates* of the Ancients, such as *Antidotus Matthioli*, *Aurca*, *Alexandria*, *Nicolai*, *Theriaca communis Augustana*, *Teyphera minor Mesues*, *Theriaca Andromachi*; but since they are all exploded except the last, its only upon that account they are kept in Shops, and we are allowed by Authors to substitute Anise or Cumine Seeds for them; but I would rather chuse *Sem. Cardamom. min.* having a pleasant, hot and not so high a Taste and Smell.

XI. *Sium* & *Sisarum*.

The same uncertainty remains concerning the *Amomum*, as about the *Ammi verum*; and therefore since that of the Ancients is lost, most of the *Dispensatories* now substitute the *Sison Dioscoridis* for the *Amomum Plinij*, to which I shall add *Sium Aquat.* sive *Berula* and *Sisarum*, as being of the same Family.

1. *Sium Aromat. Sison Offic.* Tournef. Instit. 308. *Sison quod Amomum. Officinis nostris*, C. B. P. 154. *Sison Dioscoridis* Moris. Hist. 3. 283. *Sison* Moris. Umb. 14. *Sison sive Officinarum Amomum*, J. B. 3. 27. 107. Raij Hist. 443. *Petroselinum macedonicum Fuchsj*, Dod. pempt. 697. Bastard Stone Parsley.

2. *Sium sive apium palustre foliis oblongis*, C. B. P. Tournef. *Aquat. maj. latif.* Moris. Hist. 3. 282. *Umbellif.* 15. Raij Hist. 443. 106. *Sium Umbellif.* J. B. 3. 2. 27. 172. *Sium.* Dod. pempt. 589. Common Water-Parsnip.

3. *Sisarum Germanorum*, C. B. P. 155. Tournef. Instit. 309. Dod. pempt. 681. Raij Hist. 442. Moris. Hist. 3. 283. Umb. 12. J. B. 3. 27. 153. Boer. Ind. 54. *Elaphoboscum Dioscoridis*, Col. Phyto-basanos, 88, 89.

The *T R I B E*.

These three *Umbelliferous Plants* are by *Morison* said to be endowed with simple, lobed or pinnate *Leaves*, and oblong, striated *Seeds* of a middle bigness.

The

The Description.

The first is a *Water-plant*, with a running, jointed, fibrous Root, a straight, striated, jointed, hollow Stalk; pinnated or winged Leaves, consisting of several pairs of oblong, blunt Pinna or Wings, slightly dented in the Edges joined to a Midrib, with an impair or odd one at the Extremity; of a light, shining, green: large, flat Umbells of white Flowers on the Top of the Stalk and Branches, to which succeed oblong striated Seeds of a middle bigness.

The second has a fibrous Root with the former, its lower Leaves lying on the Ground in the Spring, consisting of seven or 9 Pair of oblong, blunt and crenated Wings with an odd one, concluding the Midrib; of a more grayish, and as it were hairy Colour; the Stalk one or two Foot high, is straight, striated, hollow, jointed, with a Leaf at each Joint, from whose Bosom the several Branches arise, especially at the upper part; the Umbells are small, white, and succeeded by several small, striated, very hot tasted Seeds.

Skirrets have Roots consisting of several fleshy parenchymatous knobs adherent to one Head, from whence arise in the Spring the Leaves, consisting of several Pairs of oblong, narrow-pointed, crenated, light-green Pinnae, adherent to a Midrib with an odd one (sometimes interspers'd with a few small ones irregularly plac'd) amidst of these arises the flowering Stem straight, striated and branched; with white Umbells on the Top, to which succeed oblong, small, striated Seeds.

The difference among these three is so inconsiderable, that they can scarce be distinguish'd by any Description, though by the View they are very discernable: *Water-parsnip* grows in the bottom of the Ditches and Drains, with a jointed running Root, so that it is soon known by its Soil, also by its *Parsnip-Smell* and Taste, to which it is so like, that when placed together, only the hotter tast and figure of the Seed can determine it. The *Stone-parsley* may be soon known by the Colour, by the Soil, which is on sandy and chalky Banks, and by the hot taste of the Seed, which more resembles that of Parsley, than a Parsnip. The Skirrets by the delicious taste of the knobby Root; and the Smell, more resembling that of a Parsnip than Parsley.

The Virtues and Uses.

The *Water-Parsnip* is seldom us'd in Physick, its esteem'd a potent *Antiscorbutick*, *Diuretick*, good in chronical Cases for removing Obstructions in the Viscera, and rectifying of the Mass of Blood, and may be used in Ptisans, Apozemes and aperient Dyet-drinks to provoke the Urine. Its Leaves are

are chiefly us'd, and here it may be enquir'd, why Plants that delight in a watry Soil, are of an hotter Taste, have more active Principles, and consist of a more penetrating volatile Salt, than the Plants of the same kind, which affect a dry Soil? If we consider that stagnating Ditches and Drains, also the Currents from Well-springs, which are chiefly the Soil of these hot, water antiscorbutick Plants, are either the Drains to a Level, or situated in the Declivity, or at the bottom of a rising Ground, so that the Waters of the Winter-floods, or rainy Seasons are empty'd in them; by which they wash off from the surface of the Earth, all the fat loose Substance which is usually inherent in manurable Ground, or fat Pastures; which being thus convey'd by the impetuosity of the Waters, soon subsides and fattens the bottom of these Rivulets and Drains: We may easily suppose, the active Principles contain'd in this fat Sediment is most susceptible of ascending, especially if they can be convey'd upwards by proper Instruments or Vessels fit for their Reception, such as we may believe the Fibres of the Roots, and the proper Tubuli of the Sap-vessels of Water-plants are, and the rather, because aqueous Particles capable of entering the Pores of the Fibers of the Roots of these Water-plants, are the most convenient Vehicle for suspending of these penetrating, volatile and saline Particles; for the manner of the Operation of these hot, juicy, antiscorbutick Plants in the Body, I delay till I come to Discourse of the *Anagallis, sive Veronica Aquat. vel Becabunga*, a noted Antiscorbutick.

That this is not the *Amomum Plinij* is agreed on by all, nor do I believe it to be that of *Dioscorides*, but I am ready to think it has been first introduc'd into the Shops by the Germans, as *Fuchsius*, &c. and from thence come to be universally substituted for the true *Amomum*, however, by its hot taste it may be admitted into the *Theriaca* along with *Ammi*, and I know no other Use for which its required in Physick; Authors are generally silent as to any other Medicinal Virtue it may have.

The *Sisarum* is oftner cultivated in Kitchen, than Physick-Gardens; its Root has a delicious Taste, and is frequently brought to the Table in the Spring among the other esculent Pot-roots of that Season, and I doubt not but is very Nourishing.

XII. *Amoris Pomum.*

1. *Aurea mala*, Dod pempt. 458. *Solanum pomiferum fructu rotundo, striato, molli*, C. B. P. 167. *Mala Aurea odore fatido quibusdam Lycopersicon*, J. B. 3. 34. 620. *Lycopersicon Galeni*, Ang. 217. *Tournef.* 140. *Morif. Hist.* 3. 520. *Raij Hist.* 675. Apples of Love.

2. *Solanum* Offic. *acinis nigricantibus*, C. B. P. 166. Tournef. 148. *Hist. des Plants* 38. hort. *f. vulg. acinis nigris*, J. B. 3. 34. 608. *vulg.* Park. Morisf. Hist. Raij Hist. 672. *Hort. Baccis nigricantibus* Dod. pempt. 453. *niger vulg.* Cord. Hist. 758. common Nightshade.

3. *Solanum scandens seu Dulcamara*, C. B. P. 167. Tournef. 149. *Dulcamara*, Dod. pempt. 402. *Solanum lignosum siue Dulcamara*, Park. Raij Hist. 672. Synopsf. Stirp. Brit. 199. Tourn. *Hist. des Plants* 42. *Glycypicros siue Amara dulcis*, J. B. 2. 15. 109. Woody Nightshade or Bitter-sweet.

4. *Solanum Lethale* Raij Synopsf. Stirp. Brit. 150. Hist. 679. *μελανόκερος* C. B. P. 166. *manicum multis siue Bella dona*, J. B. 3. 34. 611. Tournef. 77. *Solano congener flore campanulato vulgatus fol. latioribus*, Morisf. Hist. 3. 532. deadly Nightshade.

The T R I B E.

Dr. Morrison, and all his Followers, who chiefly distribute the *Plants* according to their *Fruit*, give these the general Title of *Bacciferae*, *Berry-bearing Plants*. Morrison adds *Polyspermae*, whose *Fruit* contains many *Seeds*. Mr. Ray says, they are *fructu magis sparso*, I should rather think they were *fructu aggregato* (if this Distinction were necessary) for the *Solanum vulgare* and *scandens* have their *Flowers* dispos'd in Clusters, upon the Top of short *Stalks*; which are soon dispers'd into separate *Foot-stalks* for each *Flower*. The several *Species* here united together (because they partake of the same *Virtues*) are distinguishable both by the *Flower* and *Fruit*. The first three have *Monopetalous*, *Star* or *Wheel-flowers*, according to Tournefort divided almost to the Center, into five pointed, largely spread forth *Segments*. The *Flower* of the first is twice as big as those of the two following, which are *Pendulous*, or hanging downwards from the several *Foot-stalks*, and whose *Segments* are bended backwards about Midday, and hang down, and are flat towards the Evening. They are plac'd upon a small *Empalement*, divided into five small, green, pointed *Segments*. They have a small round hole in the Middle, penetrated by the *Embryon* of the *Fruit*, fitted with a small *Pointal* and *Button*, lying hid amidst five very short *Chives*, and oblong, flat, erect, yellow *Summits*, full of the *farina fecundans*, arising from the Center of the *Flower* (which when it decays, falls off whole) around this Hole. The *Embryon* soon becomes a round, soft, pulposus *Berry*, full of flat *Seeds*. The fourth is distinguished by its large, long, tubulous *Flowers* (superficially divided into five pointed *Segments*) and by its *bicapsular Berry*, so that Tournefort is excusable when he places it among the *Bell-flowers* in the first, and the rest among the *Wheel-flowers* in the second Class.

The Description.

1. *Apples of Love* arises from the Seed, and soon runs out into large, infirm, very much branched, round, hollow, and somewhat hairy Stalks, spread on the Ground with alternate, compound *Leaves*; each consisting of three Pair of *Pinnae* dented in the Margent with an odd one closing the Midrib, having several small *Leaves* interspers'd like the *Agrimonia*, or *Argentina*, but more narrow and pointed, not hairy, but smooth, of a light Green. The *Flowers* arise near to, but not from the bosom of the *Leaves*, and frequently from the Intervals at a middle Distance betwixt them upon a small *Stalk*, soon divided into separate *Foot-stalks*. They are of a pale yellow, much larger than the following, have deeper yellow *Summits* in the *umbo* or middle of the *Flower*. The *Embryon* becomes a round *Berry*, twice as big as a *Cherry*; of an agreeable, pale, yellow colour when ripen'd, distinguish'd longitudinally by six Lines, which mark out so many *Celuls* or double *Placenta's*, to which the many flat *Seeds* adhere, being lodg'd in a soft pulpy Juice; its rarely cultivated in Gardens. The Fruit ripens in the Autumn, and the Plant decays with the first Frost.

2. The common and woody *Nightshade* are very like to one another, the first is annual, arising late in the Spring, but making quick advances both to *Flower* and *Fruit* after *Midsummer*. Its very much spread forth with round narrow *Stalks* and *Branches*, each distinguish'd by four or five protuberant longitudinal *Lines*. The *Leaves* arise alternately, those below larger upon one Inch *Foot-stalks*, broad at the Base, sinuated and pointed, rough, dark Green, lighter below than above, with five Pair of protuberant *Veins* proceeding obliquely from the middle one; all which terminate in a Point. The small white *Flowers* (with yellow *Umbones*) arise irregularly from the *Stalk* and *Branches* like the former, being frequently surrounded with very small *Leaves*, especially towards the upper part of the *Plant*. The *Berries* round, unilocular, purple, red, or yellow, in the several species. The flat *Seeds* adhere to the *Placenta* or *axis medius*. It grows in Dunghills and fat manur'd Ground, in Gardens its easily propagated by the Seed.

3. The bitter *Sweet* has a perennial, fibrous, woody *Root*, infirm, small, round *Stalks* lying on the Ground, or arising to two or three Yards high; when it grasps and climbs up any *Tree* or *Shrub*: the *Leaves* are oblong, smooth in the edges and pointed, having usually two Ears at the Base. The *Flowers* arise irregularly in Clusters, from five to eight, together with the former; of a purplish blew; yellow *Umbones*; an oval *Fruit* of the same bigness with the former; pale Red, and beautiful when ripe
full

full of flat Seeds. The *Root* endures all the Winter, and sometimes the woody *Stalks* in mild Weather. It grows on Ditch sides, and in moist shady Places.

4. *Deadly Nightshade*, is a tall, strong, bushy *Plant*, has several gross, straight *Stalks*, arising from a gross thick *Root*, and ascending sometimes to two or three Yards high, dividing into *Branches*: Alternate *Leaves* like the former, but thrice as large, not sinuated, but broad at the Base, and pointed; dark Green above, lighter below. The deep purple *Bell-flowers* indefinitely and alternately plac'd, are large, hollow and Tubulous, superficially divided into five pointed Segments, yellowish, and hairy towards the bottom, with five *Chives* somewhat hairy also, and white *Summits*, with the Pointal hanging without the Flower fitted with a green *Button*. The Flower is sustain'd by a five pointed *Empalement*, which afterwards contains a round, purplish, black, shining *Berry*, of the bigness of an ordinary black *Cherry*, but more round, with a longitudinal Depression, marking out its Division into two Celluls; full of a black, nauseous, fetid, sweet *Pulp*, in which are lodg'd several small *Seeds*.

It do's not grow wild very frequently, neither in *England* nor *Scotland*, and when it is found so, its usually so near to *Gardens*, or places where *Gardens* have been cultivated, that it looks rather like an *Ejectamentum*, than an *indigneous Plant*. Its said to grow wild in a *Church Yard*, and Lanes about *Fulborn* in *Cambridgeshire*, also at *Sutton Comfield* in *Warwickshire*. In a Ditch at the end of *Goswel-street* in the Road to *Islington* from *London*, in *Cuck-stone* near *Rocheſter*, in *Kent*, where all the Roads and Yards are over-run with it; also it was observ'd by one of my Correspondents, betwixt *Cul-rofs* and *Toryburn* in *Scotland*. It seems to have been more frequent in that *Kingdom* 700 Years ago, than it is now, though it be still frequent in the *Gardens* there. I shall give a memorable Instance of its *Vires*, when I come to speak of its dismal Effects.

Virtues and Uses.

The first three *Solana*, as they agree much in their Characters, so in their Virtues, only in a more and less intense Degree. The *Apples of Love*, though pleasant to the Eye, yet they are not so to the Taste, for if you but put your Tongue or Lips to the Fruit, it will burn them so as to be ready to blister, by which it may be look'd upon as not fit for internal Use, nor indeed for External; though they are said to make a Pickle of it, or to eat it with Oil and Vineger in the hot Countries, as we do Cucumbers; but *Caveat Emptor*, there is a good variety of physical *Plants*, though we do not meddle with such edg'd *Tools*.

The

The common and woody *Nightshades* consist of very acrimonious, tenuious and subtile Particles, which its probable may be curb'd in boiling, as we see an hot *Onion* by roasting or boiling, come to have a smooth, oily and fatuous Taste. There is nothing more recommended in this Country for a sore Throat, than a Tea of the dry'd *Leaves* of the *Solanum vulgare*, which they call *murrain Grass*, and I have known it very successfully us'd. I have also prescrib'd a *Decoction* of the *Leaves* of *Dulcamara* to a good Advantage, in which a proportional quantity of *Theriaca* has been dissolv'd, as a potent Sudorifick in violent rheumatick and pleuritick Pains, when there has been an indication for Sweating; though the raw Berries of both, are much to be suspected for producing the same Effects with the *Solanum Lethale*, when Children are allur'd by the pleasant colour of the Berries, especially the *Dulcamara*, to taste and eat them; from which Parents use to frighten them by calling them *Dog*, and sometimes *mad Berries*. Their Juice is apply'd externally for Burnings, cancerous and cacoethes Ulcers, also to the *Erisipelas* or *St. Anthony's Fire*, though *Simon Pauli* dissuades from the use of it, and says, that even the *Aqua Solani* with *Litharge*, has produced bad Effects. Its Leaves and Juice enter the *Unguentum populneum* and *Diapompholigos*, but in such a quantity, as no great harm need be suspected. The *folia Dulcamara* are chiefly us'd for the *Populneum*, because the Leaves of the other do not suit with the Season of the *Poplar Buds*.

The *Solanum Lethale* seems to have a quite different Operation; for instead of an hot Acrid, it has a sweet, luscious and disagreeable Taste, so that it seems to produce the same effects with the *Hyoscyamus*, *Cynoglossum*, and other intense *Narcoticks*, which usually before they affect the Person with Sleep, produce *delirious* and *maniacal* Symptoms; however, its an *Herb* of so pernicious a Nature, that scarce any Author who treats of it fails from proper Observation, or good Information to give dismal Instances of its bad Effects. *Simon Pauli* refers us to *Lobelius* his *Adversaria*, and *Bodeus a Stapel*. Mr. Ray's account of what happen'd to a *mendicant Friar*, upon the taking a glass of the Infusion of it in *Mallow Wine*, gives a good account of the various Symptoms it produces. In a short time he became *delirious* after a little (*Cachinne*) a grinning Laughter like the *Risus Sardonicus* succeeded; after that several irregular Motions, and at last a real *Madness*, and such a Stupidity as those that are sottishly drunk have, which after all was cur'd by a draught of Vinegar. Mr. Miller mentions several Children at *Croyden*, who were not long since pois'd by the Berries. There is another Instance of its bad Effects in my *miscellaneous Observations* from my proper knowledge. It's worthy of the Recital what Mr. Ray tells us happen'd to a *Lady* of *Quality* of his Acquaintance, who having a small Ulcer a little below her Eye, which she suspected to be

cancerous, she applied a bit of the Leaf of this *Solanum*, which so relaxed the *Tunica Uvea* in one Night, that she could not contract the *Pupilla* the next Day, so that the *Pupilla* of the one *Eye* was four times as big as the other; and upon the removal of the Leaf the Fibres recover'd their muscular Tone by degrees; and lest this should seem to be merely accidental, she repeated the Experiment three times, at which Mr. Ray himself was present.

But the most memorable Instance of the direful Effects of this *Plant*, is to be seen recorded by the celebrated *Buchanan* in his History of *Scotland*, by which we may observe how the Almighty God can convert the most deadly Poisons into the fittest Antidotes, for those whom he has a mind to preserve. This obliges me to make a Digression, not altogether unsuitable, since it gives the *Botanical* Description of a *Plant*, writ about 150 Years ago by one who himself was no professed *Botanist*; the Use made of it, and the wonderful Effects it produc'd.

In the Reign of *Duncan I. King of Scotland* (who was afterwards murder'd by *Mackbeth the Tyrant*) *Harold the Dane* invaded *England*, not long before the Days of *King William the Conqueror*. *Sveno* his Brother at the same time invaded *Scotland*. Upon his landing in *Fife* he obtain'd a signal Victory, which obliged the *King of Scotland*, with the Remainder of his routed Forces, to retire to *Bertha* (an ancient Town of great Note situated on the River *Tay*, which was not long after destroyed by an Inundation) and out of whose Ruin the Town of *Perth* was built, and now stands upon the same River, two Miles nearer the Sea, and pursued them so

Missa magna vis panis & vini tum e vite, tum ex hordeo confecti, ac succo infecti herbae cujusdam venificæ, cujus magna copia passim in Scotia nascitur. Vulgo *Solanum somniferum* vocant. CAULIS ei major bipedali in ramos superne diffunditur: FOLIA latiuscula, acuminata exteriori parte, ac languide virentia: acini prægrandes, ac nigri (cum maturuerunt) coloris, qui e caule sub axilla foliorum exeunt: sapor eis dulcis, & prope modum fatuus. SEMEN habent perexiguum, velut fici grana: vis fructui, radici, ac maxime semini, somnifera, & quæ in amentiam si largius sumantur agat. Hac Herba cum omnia infecta essent, qui commeatus in castra vehebant, ne qua doli subesset suspicio, prægustabant, Danosque magnis poculis invitabant ad bibendum.

Duncanus, qui futurum sciret, ut vis potionis una cum somno & visceribus conciperetur, jam *Macbethum* cum suis per aversam ab hoste portam summo silentio in urbem receperat; compertoque per exploratores, somno & vino graves jacere hostes; *Bancho-nem* iterum aditusque in castra gnarum cæteris in insidiis collocatis, cum parte majore exercitus misit. Is ingressus castra, sublato clamore magno, opinione sua omnia negligentiora invenit. Pauci tumultu excitati cum velut amentes, temere discurrerent, ab obviis cæduntur. Reliquis fere mors cum somno continuata est: Rex, per Temulentiam velut mortuus, a paucis qui minus vinolenti erant, correptus, cum non modo viribus, sed etiam sensu careret instar oneris in jumentum forte oblatum injectus ad naves est delatus.

closely, that he laid siege to the Town both by Land and Water. The Scots were put to great Straits, not for want of Provisions, but for want of Men, to repel the Besiegers. King *Duncan* was a peaceable, unactive Man; he had sometime before committed the Government to the Management of *Bancho*, of a cunning and subtle Wit, and to *Macbeth*, of a fierce, bold, aspiring Spirit. *Macbeth* went to the Country to raise a Reinforcement, while *Bancho* treated with the Enemy, and first obtained a Cessation of Arms, and then spun out Time by framing of Articles of Peace. The Danes wanted Provisions, but abounded with Men; the Scots abounded in Provisions, but wanted Men. The Truce was equally acceptable to both, especially to the Danes, who for the present expected Plenty of all Things, and for the future the Conquest of a whole Kingdom. Care was immediately taken by the Scots to afford them all manner of Liquors, both Wine and Ale, and they contrived to mix with them a good Quantity of the deadly Nightshade (this *Solanum Lethale*, or *Somniferum*) of which we now treat. The Bait took, the Danes drank plentifully, and were all intoxicated, mad with this poisonous Juice, and asleep through Drunkenness. The Scots fell upon them, kill'd the most part, and with much ado a few remaining, got to their Vessels, while their befotted King was carried like a Sack-load upon a Beast down to the River, where there were scarce Sailors enough saved from the Slaughter to man the Vessels. This put an End to the Danish Attempts upon Scotland; for before they departed they swore they would never make a Descent upon that Kingdom any more. - For farther Illustration of this noted Piece of History, I have thought fit to insert it in the Margin in the Author's own elegant way of Expression. *Rerum Scoticarum*, lib. vii. p. 112. fol. Edit. Edinb. 1715.

As for the external Use of this deadly Nightshade, it's much commended for dissolving of *schirrous* and *cancrous Tumours*, for dissolving of curdled Milk in the Breast, and for cleansing of *cancrous Ulcers*; but as being given inwardly it's of very malignant Qualities, I dare not recommend it for any outward Application, lest perhaps this *Virus*, or some poisonous Particles, be introduc'd into the Blood. We are sensible that *Opium* being externally applied proves a great *Anodyne*, by easing of Pain, and a *Narcotick* or *Soporifick*, when perhaps its inward Use was not so safe, either upon account of the Weakness of the Patient, or when the Patient upon the taking of *Laudanum* and other *Opiates* has been rendred too watchful (a quite contrary Effect) and even delirious, both which Symptoms I have sometimes seen removed by external Applications when internal would not do; and nothing is more frequent with some of the Profession than to use *Uction* with *Mercurials*, in order to raise a *Salivation* (tho' Dr. *Qui ce*y in his *Prælect. Pharmacut.* p. 581 seems to be a Stranger to that way of doing.) I say, since 'tis evident that Medicines externally applied do produce considerable

Effects

Effects on the Blood, I dare not advise the external Application of a Plant, which being inwardly administered, proves that which they call a rank Poison. Before I leave these Solana, I have thought fit to add other two of that Family, the one not rarely cultivated in our Gardens, the other planted in the open Fields, both of more frequent Use in the Kitchens than in the Shops.

5. *Solanum Capsicum dictum.*

Capsicum siliquis propendentibus, Tournef. 152. *Capsicum Actuarii Caninum Zinziber Avicennae calecuticum sive piper Indicum majoribus siliquis*, Lob. Icon. 316. *Solanum urens Capsicum dictum*, Moris. Hist. 3. 528. *Solanum Capsicum Indicum vulgatissimum*, Hort. Lugd. Bat. 574. *Piper Indicum vulgatissimum*, C. B. P. 102. *Sive Calecuticum siliquosum* J. B. 2. 15. 180. Raii Hist. 676. Indian or Guinea Pepper.

The T R I B E.

This by its acrimonious hot Taste and Structure of the Flower is undoubtedly a *Solanum*, but its Fruit being rather a Pod than a Berry, and being divided into two or three Pouches, plainly distinguishes it from its Congeners.

The Description.

From an annual fibrous Root it arises with a rough, solid, jointed, branched, angular Stalk, about two or three Foot high; the Leaves from the Joints are smooth, long, narrow, dark green, and pointed, with equal Edges, upon long Footstalks; the Flowers sometimes from the Bosom of the Leaves, sometimes from the Divarications of the Branches, are placed upon long, channell'd, deep red Footstalks, white, like those of the common Nightshade (but much larger) with yellow Umbones, to which succeeds an oblong Fruit, about the bigness of a Man's Finger, of a deep red when ripe, juicy when first pull'd, divided into three Pouches, but soon, upon drying, becoming membranous, full of flat, extreamly hot tasted Seeds. It's sown in Gardens, sometimes produces the Pod, but seldom ripening the Seeds; it perishes with the first autumnal Frost.

Virtues and Uses.

The whole Plant is extreamly hot with the other Solana, but has no kind of Malignity, being rather of the Nature of the other Kinds of Pepper,

Pepper, to which it may be a *Succedaneum*, if they were not cheaper and more frequent. In *Italy*, *Sicily*, and other hot Regions, also in *England*, they pickle the green *Pods*, but they are so extreamly hot, that they are scarce eatable alone, tho' they may be mixed with pickled *Cucumbers*, *Purslane*, or other such as they call cold Pickles.

6. The *Solanum tuberosum esculentum*, or *Potato*, tho' no Dispensatory Plant, may be named here for its extraordinary nourishing Quality, by which it's so famous a *Pot Root*, and so frequent in the Kitchens. Tho' it agree with the other *Solana* in all the other Characters of *Flower* and *Fruit*, yet it has none of their acrimonious and malignant Quality. It seems to have been so rare in *Caspar Bauhinus's* Days, that he has taken the Pains to give a full Description and an exact Figure of it. † He justly observes that its compound dark green *Leaves* commonly consist of three, sometimes four Pair of *Pinnae*, and an odd one, and contrary to most of the conjugated or pinnated *Leaves*; the first Pair is least, the other two gradually larger, and the odd one largest of all, being broad, roundish, and somewhat pointed. The *Flowers* are larger than those of any other *Solana*, of a blush red, and sometimes white. The *Empalement* is proportionally large, and *Berry* larger than the biggest Kind of *Cherry*. The *tuberos Root* is so well known that I need say nothing of it, only that it's so productive by its small *Bulbs* or *Childlings*, which soon increase to a great Bigness, that it is very easily propagated wherever 'tis planted, and it's but seldom raised from the Seed.

Caspar Bauhinus says this *Root* was first brought into *England* from *Virginia*, which must have been in *Queen Elizabeth's* Reign, from thence it was conveyed to *France*, and other Countries, and now it abounds so much both in *Britain* and *Ireland*, the latter especially, that it serves for the Bread and daily Food to many a poor Person there. *Bauhinus* says they made Bread of it in the *Indies*, which they call *Chunno*. They dry the *Roots* at the Sun, by cutting them in slices; being thus dry, they break, poulder, and make Bread of them, which will last a very long time (*ex quibus eduluum Chunno Nuncupatum admodum diu durans conficiunt*) so that if Bisket were bak'd of it to be kept for long Voyages at Sea, since 'tis now so common, or may be propagated in so great an abundance, it might turn to a very good Account, and be had at as cheap and a cheaper Rate than either *Wheat*, *Rye*, or *Barley*. Who want to be farther satisfied about it may consult the forecited Author; I shall only add, that this is a singular Instance where the *Virtues* of *Plants* may disagree when they agree in their *Characteristicks*.

N. B. Upon writing of this I have been inform'd by an expert *Physician* that the *Leaf* of the *Solanum Lethale* being applied to the *Anus*, is an im-

† C. B. Prodr. p. 85.

mediate Cure for the *Tenesmus*, by asswaging the sharp, uneasy, fretting Pain, having tried the Experiment upon himself; and that he knows it to be an effectual Discutient of *schirrous Tumours*; however, it may happen, when the *Articula* on the one side, and the thin *Teguments* of the *Leaf* on the other, may prevent the more immediate Admission of its *poisonous Particles* into the Blood, yet I can by no means advise the Application of its Juice to *cancrous Ulcers*, lest its *Malignity* be too soon introduc'd into the Blood by the open Orifices of the *Cappillaries*, and then the Cure may prove worse than the Disease.

XIII. *Amygdalus*.

Is the first *Fruit Tree* (in common Acceptation) I meet with; for tho' all *Plants* bear a *Fruit* after their Kind, yet *Trees* more especially are distinguished into the *Barren* and *Fruit Trees*, that is, whose *Fruit* is *esculent*, or *eatable*, or *not*. The *Almond Tree* is only eatable by its *Kernel*, but there are others I shall join with it, whose *Fruit* is otherwise *eatable*, viz. by the *Pulp*: which leads me into the general Consideration of *Esculent Fruit*, and that in different Respects, according to their *Kinds*. 1. As to their *Bigness*; they are *Baccifera* Berry bearing; *Prunifera*, bearing *Plumbs*; and *Pomifera*, affording *Apples* or *Pears*, according to their *Kinds*. 2. As to their *Substance*, they are *Ossiferous* or *pulpous*; the *Ossiferous* are divided into the *Nuciferous*, the *Nut* Kind; and *Testaceous*, the *Stone-Fruit* Kind.

The *pulpous* Kind are divided into the *succulent Fruit*, such as most *Berries*, *Plumbs* and *Cherries*. The *Parenchymatous* are the *Apples* and *Pears*. Some of the *Testaceous*, or *Stone Fruits*, are *succulent*, as the *Cherries* and *Plumbs*; and some *parenchymatous*, as *Apricocks* and *Peaches*. Some approaching to the *Nuciferous*, as this *Almond* (of which we treat): and some of the *Pomiferous* are of the *succulent Kind*, as *Oranges* and *Lemons*, &c. of all which hereafter.

Amygdalus amara & dulcis.

Amygdalus sativa, C. B. P. 441. Raij Hist. 1519. *dulcis & amara* J. B. 1. 2. 174. Tournef. 627. Boer. Ind. 245. Agric. de Agricultura, P. 3. The sweet and bitter Almond.

XIV. *Malus Persica*.

Malus Persica, J. B. 1. 2. 157. Raij Hist. 1515. *Persica Molli carne & vulgaris, viridis & alba*, C. B. P. 440. Tournef. 626. Boer. Ind. 2. 243. The Peach Tree.

XV. *Malus Armeniaca*.

Armeniaca Malus fructu majore ex luteo rubescente, Hort. Lugd. Bat. 59. *Mala Armeniaca majora*, C. B. P. 442. *Armeniaca Mala majora*, J. B. 1. 2. 167. Raij. Hist. 1514. *Armeniaca fructu majori, Nucleo amaro*, Tournef. 623. Boer. Ind. 242. The Apricot Tree.

Vegetation of an Almond, and other Stone Fruit Trees.

Tho' the sweet and bitter *Almonds* differ in their Taste, and grow on different *Trees*, yet are they no more to be esteemed different *Species* than that vast Variety of *Apples, Pears, Plumbs*, which, tho' they are distinct in *Bigness, Colour, Taste*, yet as to the *Wood, Bark, Flower and Leaf*, they are still the same. The *Almond* and *Peach-Kind* are so like to each other in *Leaf and Flower*, that they are only distinguishable by the different Substance of their *Fruit*. The *Apricot* is so like to the *Wall Plumb*, in *Leaf* especially, that it can be only distinguish'd by the Substance of the *Fruit*, to be nearer to the *Peach Kind*.

General Character.

All of them have a pale red Flower, with a monophyllous Empalement, deeply divided into 5 or 6 Segments, surrounding a rosaceous Flower, consisting of 5 or 6 Petals, so united in the bottom of the Empalement, as to make up an hollow Basin, endow'd with a great many Stamina or Chives, with round Summits, about 30 in Number.

The *T R I B E*

That I may trace these *Stone Fruit-Trees* (as it were) from the *Cradle* to the *Grave*, from the planting of the *Stone* in the Ground to the eating of the *Fruit* on the *Table*, I have thought fit to repeat what I have advanc'd elsewhere concerning the *Vegetation and Nourishment of Trees*, and to add some other Improvements made from the proper Observation of Dr. *Agricola* in his *Treatise de Agricultura*.

In my *Botanick Essays* quoted in a Letter from *Boccone* to *Tournefort* (*Essay* v. p. 334.) is asserted, ' That the little *Plant* generated in those called *Seeds*, is either begot in that Part to which the *Pedicle* adheres, or in the opposite Part, or somewhere else. 2. That the Part to which the *Pedicle* adheres is stretch'd forth, in order to compose the *Pedicle* or *Fibre* of the *Root*, from whose upper Part or Top do proceed the
' *Leaves*.

Leaves. 3. If it is generated towards the *Top*, the *Leaves* are stretch'd forth towards the *Pedicle*, and the *Root* towards the *Top*." Dr. *Grew* seems to be the first who discover'd the *Hole*, by which the Extremity of the *Pedicle* is still continued with the Point of the *Radicle*, until the *Seed* be fully ripe, and the *Radicle* and *Seed-Leaf* is fully formed in the *Seed*. This *Hole*, and the Point of the *Radicle* opposite to it, is very observable at the *Eye* of a large *Bean*, especially if it has been some time soak'd in *Water*, and in the *Seed* or *Key* of the *Ash Tree*. Dr. *Agricola* makes a farther Improvement on this *Doctrine*. He compares an *Almond* to an *Egg*, with its *hard Shell*, and two *inner Membranes*. The *hard Shell* is indented near the *Top*, whence it makes an *Oval* along the *Sides* to the middle, where it begins to take the Roundness of the *Egg*, and terminates in a Point. The outside of the *Shell* is full of Depressions and little *Holes*, where the *Nerves*, *Glands* and *Tubes* communicate with the green Covering. The *Shell* is hard and unequal, being *thick* on the one side and *thin* on the other; and on the *thick* side, towards the *Top*, is lodg'd a *small Orifice*, which will admit of an *Hogs Bristle*, which reaches from the Extremity of the *Radicle* to the inclosed little *Bud*.

If this Conduit is carefully trac'd, the Canal may be observ'd interspersed with *Veins*, *Nerves*, and little *Tubes*, by which the *nutritious Juice* is convey'd to the interior and lower Part of the *Radicle*, where there is a *Receptaculum*, a Repository for such *Juice* or *Sap* as is fit for its Nourishment, whence it is absorbed, and drawn to it by the *Navel-string*, lodg'd in the first *Skin*, and thence to the *Placenta*, very remarkable on the *Top*. This *Juice* is return'd by the *Veins*, plainly observable throughout the *Skin*; and thus is the *Embryon* nourished.

The first *Skin*, of a brown Colour (which may be properly called the *Chorion*, or external Cover of the *Fœtus*) being removed, beneath it is a fine tender *Skin*, answerable to the *Amnios* or *inner Skin* of the *Egg*, which immediately incloses the *Fœtus*. It's extreamly thin and smooth towards the *Stalk* of the *Fruit*, and is always moist, by which the inclosed *Almond* is somewhat viscous in its Surface.

Next to this *second Skin* appears the white Substance of the *Nut* or *Kernel* (not unlike the Colour of that called *Almond-Milk*) which when drawn from its last *Skin*, the *Bottom* or *Tail* of the *Nut* or *Kernel*, the *Basen* or *Place* where part of the *Radicle* is inclosed, is plainly remarkable, where the *nutritious Juice* is absorbed, after having passed thro' the *Navel-string*.

You next separate the *Lobes* of the *Almond*, and lay them open as the *Leaves* of a *Book*, and there you discover the *Plume* at the pointed End, which contains the whole Form of the *Tree*, and in the other End, towards the *bottom*, is to be remark'd a small *Slit*, where the two Parts are

are united near the Radicle. They alter their white Substance by little into a green Colour, and produce what may be called the *minor Seed* of the *Plant*, from whence both *Root* and *Trunk* receive their *Nourishment*, until the *Juice* of the *larger Seeds Leaves* is quite spent, and then they decay and dwindle away.

When the *little Bud* is not pregnant it never opens, but no sooner does the *Principle of Vegetation* begin to act than it opens at the *top*, and another *little Spark* or *Flame* comes out afresh, and another Part, much shorter and thicker, of an oblong Figure, puts forth at the bottom, as a *Body* in Figure like half of an Egg, which terminates in a Point. In the first Part, or in the *Plume*, are contained the *Branches*, *Twigs*, *Leaves*, *Flowers* and *Fruit*, in some measure observable by a *Microscope*; and it is to be seen with the *naked Eye* how Nature has grafted the *Stem* with the *Root*, for it would seem as if the *Stem* and *Root* were not one continued *Body* at first, but two distinct Parts, until the *Vegetation* begin at the Center, and then both *Root* and *Stem* are united together. See *Philosophical Treatise of Agriculture*, Page 7. Plate 1. Page 14. I might have added other Observations suitable to this Purpose, and some other Experiments made in the Vegetation of Peaches by the fore said ingenious and curious *Author*, but this (which to some may seem extrinsick from my Design) I hope will suffice.

The Description.

XIII. The *Almond* and *Peach Trees* are so like to each other as to their *Leaf*, *Flower* (as has been observed) and external Shape, that they are scarce distinguishable; both have oblong, narrow, sharp pointed, crenated, light green, shining *Leaves*, like those of the *Salix*; the *Leaves* of the *Almond* less proportionally than the *Peach*; the *Almond Flowers* are of a whitish, those of the *Peach* of a much deeper Red, proceeding before the *Leaves*, and springing forth without Footstalks from the larger and lesser *Branches*, rosaceous, with a great many *Chives* and *Summits* surrounding a strait *Stylus* and round *Button*. The *Fruit* of the *Almond* is flat, somewhat bended, with a thin outer green Coat, surrounding a rough *Shell* of the same Figure, and containing a large eatable *Fruit*, of a white Substance, and either sweet or bitter oily Taste.

XIV. The *Fruit* of the *Peach* is round, *parenchymatous* and *fleshy*, eats hard, unless well ripe, rough without, of a yellow Green, and of a pleasant Taste; the *Stone* is very rough, thick and hard, containing a Kernel like that of an *Almond*, but less, of a pleasant bitterish Taste.

XV. The *Apricock* or *Apricot Tree* is much like the *Peach*, its *Branches* are not so small the first Year (for those of the *Almond* are small, flexible, and

and Twig-like): Those of the *Apricot* groffer and stiffer; its *Leaves* are broad, large, more like a *Plumb-Tree* or *Black Poplar*; the *Fruit* with a Longitudinal Depreffion, like the other, not fo rough; of a Taste like unto it, but a fofter and more juicy or pulpy Substance. The Stone and Kernel do not differ much, save only in the Bigness proportional to the Fruit.

They are usually planted on *Garden-Walls*, and, if well manur'd, produce very plentifully here in *England*; but for their Culture, Management, different Kinds of Fruit, I leave that to the Care, the Art, and Mystery of the expert and curious Gardiners in and about *London*; and who from thence are sent forth as from a Nursery, to the Noblemens and Gentlemens Gardens all over the Country in such an Abundance, and endow'd with so much Experience in their Profession, that no Country in the Universe can produce so many knowing Gardiners as *England* can afford at this Time.

The *Almond-Tree* comes to a great Perfection with us, as to the Wood; but seldom perfects the Fruit here, as in the hotter Regions of *Upper Germany*, *France* and *Italy*: But one Reason may be, the Fruit it self not being eatable, and the *Almonds* are imported in so great Quantities from Abroad, and at so cheap a Rate, that it's not worth while to bestow so much Pains in pruning, cultivating, and manuring of them, as of the Peaches and Apricots; for I am persuaded, they who have come so great a length in rendering of *Peaches* fertile, could not fail to render the *Almond-Tree*, his Brother, as fertile as the other.

Virtues and Uses.

The Almond both sweet and bitter, consists of *Farinaceous*, *Nutritive*, and *oleaginous Particles*: They are much in use among the *Confectioners* for their *Sweet-Meat Entertainments*. They are of use in the Kitchen for nourishing Dishes; and in the *Apothecary's Shops* for *Emulsions* and *pectorale Compositions*, such as *Looch e pino*; *de Papavere*; *sanans*; *spec. diapenidion*, *Elect. pectorale*, *Diapersicon*, &c. The *Amygd.* is frequently us'd in most Distempers of the *Breast* and *Lungs*; it is either drank up alone with Sugar and White Wine, or it enters into *pectoral Linctus's* and *Electuaries*, &c. It's apply'd externally for beautifying of the Face; it is also prescribed in *emollient Liniments*. The Oil of *Bitter Almonds* is chiefly us'd, a little Cotton being dipp'd amongst it, or by being syring'd into the Ears of those who are deaf by the indurated Wax.

Peaches are not now much used in Medicine. The Old Dispensatory prescribes the *Syr. Fl. Persicorum* among the purging Syrrups, made of a strong Infusion, or rather the Juice of the *Peach-Flowers*; but it's not in use. It likewise enters the green Apricots among the *condita*; but these Preparations, however they may please the Palate, are not of much medicinal

Use: They frequently use the *Apricot* and *Peach-Stones* and *Kernels* bruised and infused in *Brandy*, to make that they call *Ratiffa*.

N. B. During the Time of making my Observations, in order to publish my *Botanick Essays*, I had frequent Conferences with that ingenious and expert Gardner Mr. *Fairchild*, in whose Garden I first observed the Male and Female-Flowers on the *Orange* and *Lemon-Trees*. Mr. *Fairchild* told me, that above 20 Years he had observ'd those he call'd *barren* and *fertile Flowers* on the *Peach*; for until my Acquaintance with him, he had no Notion of the Sexes of Plants: We then observ'd the *Male-Flowers* more frequent on the *Almond-Tree* than the *Female*; and since that Time, I have observ'd the same *Male-Flowers* in most esculent *Fruit-Trees*, with a *Rosaceous Flower*, such as *Apples*, *Plumbs*, *Cherries*, &c. and that the *Male-Flowers* were the first both blossom'd and blown. The Way to discern is, by a grosser *Stylus* or *Pointal* on the one than in the other; also by a more tumid *Calix*. Now whether the Frequency of these *Male-Flowers* may proceed from a certain Weakness, or want of a sufficient Supply of *Nourishment*, to push forth and ripen the Fruit, or whether a more than ordinary Quantity of the *farina fecundans* be required for *Impregnation* of those which are after to become such *large, gross*, or such *hard, stony Fruits*, may be a Question. It thus far consists with my constant Observation, that the *Male-Flowers* are first blown, and that they are more frequent in dry, than moderately wet Seasons, when the Fruit, generally speaking, does not so much abound. See more of this, *Botanick Essays* 4. p. 291. &c.

XVI. *Anagallis Terrestris*.

1. *Anagallis Ceruleo Flore*. C. B. P. 252. Tournef. 142. Moris. Hist. 2. 569. Boer Ind. 1. 103. *Cerulea Fœm*. J. B. 3. 29. 369. Raij. Hist. 1024. *Fœmina* Dod. pempt. 32. Female Pimpernel.

2. *Anagallis Phœniceo Flore*. C. B. P. Tournef. Boer. Moris. *Phœnicea Mas*. I. B. *Mas*. Dod. Raij. Hist. Male Pimpernel.

XVII. *Anagallis aquat. f. Becabunga & Veronica Mas, f. Be-tonica Pauli*.

1. *Anagall. min. aquat. fol. subrotundo*. C. B. P. 252. *Aquat. fl. purpureas cente fol. oblongo minor*. J. B. 3. 38. 780. *Veronica aquat. maj. fol. subrotundo*. Moris. Hist. 2. 323. Hort. Lugd. Bat. 622. Tournef. 145. Boerh. Ind. 225. *Anagallis rectius Veronica minor fol. subrotundo*. Raij. Hist. 852. *Berula*
five

five Anagallis aq. Tabern. Icon. 719. vulg. Becabunga Park. Aq. five Becabunga
Ger. common Brooklime.

2. *Veronica Mas supina & vulgatissima. C. B. P. 246. Supina vulg. fol. serratis. Moris. 2. 318. Tournef. Boer. Raij. Veronica vulg. fol. Rotundiore. J. B. 3. 38. 282. Mas Serpens. Dod. pempt. 42. Male Speedwell, or Paul's Betony.*

The T R I B E.

Dr. Morison, Mr. Ray, and the other Botanick Authors, who preceded Tournefort, seldom consider'd whether a Flower were *monopetalous*, deeply divided into 4 or 5 Segments, or *tetrapetalous* and *pentapetalous*, consisting of so many Petals; chusing rather to class the Plants by the Fruit; but even in that there was a general Error concerning the *Anagallis*, until Dr. Morison discover'd that the *Anagallis aquat.* of the Ancients is a *Veronica*, whom Mr. Ray follows; and *Tacito. Authoris Nomine* makes use of the Discovery as his own, as has been observ'd elsewhere. Though Dr. Morison himself fails in that he would have the *Anagallis* to be *pentapetalous* and *capsular*; and the *Veronica*, *tetrapetalous* and *siliculous*, which Mr. Ray, in his *Method. Emend.* has corrected, by calling them *Enangiosperme*. As to their Flower, he says, they are *Tetrapetaloid* and *Pentapetaloid*; and only says, *Anagallis* is *vascular*, but gives no Title to the Fruit of the *Veronica*. Tournefort gives but a general Account of both, when he says, *cujus pistillum abit in fructum siccum*. Nor is the accurate Boerhave very particular here, when he only says, the *Anagallis* is *Monangiospermos*; whereas he might have call'd it, *Monangiopolyspermos*, as the *Veronica* is *Diangiopolyspermos*.

XVI. The general Character then of the *Anagallis* is, that it has a *monopetalous Flower*, divided into 5 Segments, with a round *unicapsular Fruit*, opening transversely, and shedding several Seeds.

XVII. *Veronica* has a *monopetalous Flower*, divided into 4 Segments, with flat, heart-like Fruit, divided into 2 Pouches, having its *Septum*, or Mid-wall, placed perpendicularly across the Center, from which the Pouches on each side, upon ripening, shoot, and shed several small Seeds.

The Description of the *Anagallis Terrestris*.

Upon what the Ancients divided the *Anagallis* into Male and Female, I cannot guess. Mr. Ray says, they do not differ in the Leaf, but I have observ'd

observ'd the contrary; for before they begin to flower, that with the blue Flower has a *Cæsious* or blueish green Leaf, larger and more pointed than the other. The blue Flower is also larger, and the Fruit more oval: They are small, low Plants, with a small, fibrous, annual Root, tending forth a few infirm, triangular, or rather quadrangular jointed Stalks, with 2 or 3 small, oval, oblong, or pointed Leves, without foot Stalks from each Joint. The Flowers are upon long, small Pedicles, arising singly from each Joint, *monopetalous*, divided into five Segments, deep Red, and less in the one; Blue, with a purplish Bottom, in the other; with five Chives and Summits, to which succeeds a *spherical, unicapsular Fruit*, about the Bigness of *Coriander*, opening transversely, and shedding several corner'd dusky Seeds, adhering to a Placenta or middle Axis: It flowers in June or July. The Red grows on the Way-sides in Arable Ground, and in Corn-Fields among the Corn, as does the Blue, but the Red is more frequent.

There is another Species belonging to this Family, which, though not officinal, having treated of it twice before, I have thought fit to name it here, viz. That which formerly was known by the Name of *Pyrola Alpinæ flore Europææ*, that it may be distinguish'd according to C. B. from the *Americana*. Mr. Ray, in his *Synop. Stirp. Britt.* places it among the *vasculifera pentapetaloidæ*; but in his *Meth. Emend.* he makes it *incertæ sedis*, being unacquainted with its Fructification. This made me, upon Observation of its Fruit, as well as of the Flower, to refer it to this Genus: In my *Miscellaneous Observations*, I call it *Pyrola Unicapsularis*, since it had enjoy'd the Name of *Pyrola* so long; but in my *Botanick Essays*, I have design'd it *Anagallis Unicaulis erecta*; for it's only by its unbranch'd Stalk, and erect Position with a darker green Colour of the Leaf, and white Colour of the Flower, that it differs from its Brethren the *Anagallides*: It's very much like the *Pyrola Alpinæ flore maj.* C. B. prodr. p. 100. See its Description, *Botanick Essays*, p. 160.

The Description of the Veronica.

1. Common Brooklime has a round, smooth, juicy Stalk, creeping on the Ground, sending forth several small Fibers from the lower Part, by which it takes Root, and a Pair of oblong, light green, blunt, smooth Leaves, from the sides of each Joint; from whose Bosom arises a small Spike, loaded with thin-set, small, blue Flowers, upon short foot Stalks, *monopetalous*, spread forth into four deep divided, blunt Segments; one, for the most part larger, upon a *tetraphyllous Empalement*, with two obliquely ascending Chives, and proper Summits, to which succeeds a flat Heart-like Fruit, with small flat Seeds. It grows on the sides of Ditches, and marshy and watry Places, flowers most part of the Summer. There are several other

Other Species of these Water *Veronica*'s, which partake of the same Virtues; but this middle Species, as being more frequent, is most in use. I once found this Species, with the Variation of a *white Flower*, at the Mill of *Craigy*, near *Perth* in *Scotland*. I cultivated and improved it for several Years in my *Garden*. Its *Leaves* were less in Proportion, of a lighter Green, and more crenated. It could scarce endure the Winter Frost, and was chiefly propagated by some of its youngest and most tender Joints, which emitted radical Fibres, and overcame the Severity of the Cold, remaining until the Spring Season, as we see happens frequently to *Pulegium*, *Scordium*, &c.

Male Speedwell, or *Paul's Betony*, is a small, low, frequently branched Plant, spread on the Ground, having, *Germander* like, somewhat notch'd *Leaves*, but less and lighter, a little hoary; the spiked *Flowers* on the upper part of the *Stalk* are small, dark Blue, upon short *Footstalks*, and succeeded by flat, furrowed, Heart-like and pouched *Seed Vessels*, containing small *Seeds*. The *Root* is small, fibrous, and perennial. It flowers and perfects the *Seed* all the Summer, growing in dry Meadows, Pastures, and not very fat moorish Ground, on Banks, and at the sides of Foot-Paths.

Virtues and Uses of Anagallis Terrestris.

Anagallis is so like to *Alfme media* in the Largeness of the Plant, Manner of growing (tho' it be not often so luxuriant) Figure, and Disposition of the *Leaves*, that I'm under no difficulty to pronounce their *Virtues* to be much alike. I have already, in Discoursing of *Alfme*, given an Account of the Operation of these moderate Astringents, (of which this *Anagallis* is, by all Authors, declared to be one) but more intense than the *Alfme*. It's therefore said to be *vulnerary*, *Alexipharmick*, good in the *Plague*, *pestilential Fevers*, against the *Bite* of a *Viper* and *mad Dog*, also in *Maniacal Cases*, for the *Epilepsy*, and griping of the *Guts* in new born Children. It is also recommended in *hectical phthysical Cases*, and other Diseases of the *Lungs*; all this may be tolerably well accounted for by its *Subastringency*, in compressing the Motion of the *Blood*, constricting of the *Pores* of the *Cappillaries*, by rendring more firm and compact the *Crassamentum*, and by blunting and absorbing the *acrimonious Particles* of the *Serum* of the *Blood*. It's also said to be good in *hydropical Cases*, and they even attribute to it the Virtue of *reserating* the *Obstructions* of the *Liver* and *Spleen*, and *dissolving* of the *Stone*. Several Authors recommend it for *Phrensies* and *Deliriums* in continued Fevers, being given in *Decoction*, in *Tincture*, with *Spirit of Wine*, or in *Extract*. The last of which fully shews its *Astringency* and *Fixedness* of its Parts; for no *Extract* ought to be made of a *volatile* or *aromatick Plant*, for then the most useful Parts

will be evaporated, and only the more unactive or *Caput Mortuum* will remain. *Simon Pauli*, after his tedious and prolix way of Expression, enters upon its being more especially made use of in that Country for asswaging of goutish Pains, being boiled into a *Cataplasm* with *Urine*. *Le-seleus* goes yet farther with its *Astringency*, and says it's so powerful a *Binder*, that if the *Plant* is kept in the Hand it will stop the Motion of the *Blood*. And from *Lonicerus*, Fol. 204. says, that at the opening of a Vein no Blood will flow out so long as the Herb is kept in the Hand. He recommends it for stopping of the *Fluxus mensium nimius*, by hanging it round the Neck, or by applying of it to the Heart-pit. He treats only of the *Anagallis Mas*, for it seems that with the blue Flower is not indigenous in *Prussia*, and it's probable the Red may be more intensely *astringent* than it, for in discoursing of the *Amaranthus*, I made a Conjecture that red Flowers are more durable, and have more *Astringency* than any Flower of a different Colour of the same Species of Plant. I doubt not but the *Amaranthus* with a deep red Spike is the most *astringent*. I should not look upon the *Flores Balauftiorum*, if there were any such of a white Colour, as so *astringent* as the common red Flowers in the Shops; and it's plain the Scarlet Rose is the most *astringent*, the pale Rose on the contrary is *laxative*, and the white Rose the more fragrant. Every one knows the *Fructus Prun. Sylv.* the common Sloe, is most *astringent*, especially if not fully ripe, and yet the white Sloe frequently sold in the Market here is so far from being *astringent*, that it's *laxative*, with the other Garden Plums. But notwithstanding what is said, the *Anagallis* is seldom used in Physick, for the Plant is so small, that it would take some time to gather any Quantity for common Use; so that there being others of the same Virtues, it's let alone.

Virtues and Uses of the Brooklime.

I have given the Reason (speaking of the *Water Parsnip*) why Water Plants, generally speaking, are of a hotter Taste, have more volatile active Principles than those of the same Family in a dry Soil; now I come to shew why such are for the most part potent *Antiscorbuticks*. When the Ancients came to give the *Rationale* upon the Operation of Medicines, they had recourse to the *Quality*, and their several Degrees, such as hot and dry, cold and moist in the first, second, third and fourth Degree; and they supposed that a cold Disease must be cured by an hot Medicine, like *Ovid's* Account of the *Chaos*; *Frigida pugnabant callidis*, &c. But how far they failed in this, their System may be soon considered in the Scurvy and its *Antidotes*; for if any Disease can be called hot, the Scurvy may, considering those inflamed and red Spots, those cutaneous Eruptions, those Scabings, Tettars, Scurfs, that Hardness and Driness in the Skin, even tend-

ing

ing to a *Leprosy*, and all attended with insufferable *Heat*, vehement Itchings, and acute Pains, and accompanied with *Bleedings*, *Erosions* of the *Gums*, loosening, sometimes dropping of the Teeth, with a Lassitude and Weariness over the whole Body. It cannot be reputed a cold Disease, and yet those deem'd the most potent *Antiscorbuticks*, may be justly called *potentially* and even *actually* hot. If we again consider the Consistence of the *Blood* in *scorbutick Persons*, and the *Texture* of the *Parts* in most *Antiscorbuticks*, especially those belonging to the *Vegetable Kingdom*, we shall not perceive such a Contrariety as the Operation would imply. The *Blood* in those tainted with the *Scurvy* consists in a gross, thick, and viscid *Coagulum* or *Crassamentum*, and a thin, sharp, acid, and even corrosive *Serum*. When the grosser *Parts* of this *Blood* arrive at the *Capillaries*, it's with much ado they can pass so narrow Channels, but being at last retarded, the more serous are separated, and being as it were unsheath'd, these acrimonious Particles make Havock upon the extream *Parts* of the Body, cut and tear wherever they go, being the cause of *itching*, and sometimes *cutting Pains*, those *Inflammations* and *cutaneous Eruptions*. The *antiscorbutick Remedies* again consist of a very *fix'd Salt*, intimately mix'd with gross and earthly *Parts*, and a very subtile, penetrating, *volatile Salt*, more disengag'd among the liquid and juicy *Part* of the *Plant*. This their *Texture* is very evident from the *Taste*, and other Experiments may be made upon such Remedies, for wherever there is an intense *Bitterness*, such *Plants* abound with a *fix'd Salt*, as in *Wormwood*, so united with the *Earth*, that nothing but *Calcination*, reducing the whole *Mass* to *Ashes*, will separate them; and if you affuse *Water* upon them, and thereby disunite the *saline Particles* (*Salia non saliant nisi in fluido*) the remaining *Earth* will be quite insipid; so that this bitter *Taste* must only proceed from an intimate Combination of the *fix'd Salt* with this *Earth*, which when separated, becomes the *Caput Mortuum*. The hot and more active *Taste* in the *Antiscorbuticks* proceeds from the penetrating and keen *saline Particles* not being so much clog'd with the earthy *Parts*, but swimming as it were freely among the serous and more fluid *Parts* of the *Plant*, do exert themselves with greater Activity wherever they go. Hence it is that these hot *Antiscorbuticks*, upon being dried, do lose their *Taste*, because the *volatile Salts* evaporate and fly away along with the *Serum*, and do soon communicate their hot *Taste* in *Distillation*, which the bitter *Plants* will not do. Upon this Reasoning it's easy to account why both these *fix'd*, bitter, and more volatile, hot tasted *Plants* are potent *Antiscorbuticks*; for the *fix'd Salts*, tho' slower in their Motion than the other, yet when they arrive at the obstructed *Part* they act more vigorously, attenuate and divide these more viscid *Parts* of the *Blood*, by which it's rendred more capable of Circulation, and these more penetrating *Salts* of

of the Plants thus extricated, soon arrive at the serous Part of the *Blood*, which being still much grosser than the acrimonious *Salts* of the *Blood*, as not so much attenuated by frequent Circulations, more powerful, and of different Texture, they destroy their too keen and sharp *Spicula*, by which they cannot produce such Effects upon the *Skin* as before, being dulcified, as we find the *corrosive Spirits* of *Nitre*, *Vitriol* and *Salt* are by the Affusion of *Spirit of Wine*, performing the Office of what the Chymists call the mixing of an Acid and Alkali, so that the gross Parts of the *Blood* attenuated by the fix'd, and acrimonious by their more volatile *Salts*, a regular Circulation is thus obtained, the *Blood* as it were is sweetned, and the bad Effects of its extraordinary Sharpness ceases.

The Herb of *Brooklime* is only us'd green; being eat as a cold Sallad along with *Water-Cresses* in the Spring Season every Morning, it's an effectual Remedy against the *Scurvy*. The *clarified Juice* may be drank in Glass-fulls every Morning in the same Case. The manner of clarifying it, and all other hot *antiscorbutick* and *Water Plants*, is, to heat the Juice over a gentle Fire till 'tis quick hot, then skim or strain out the grosser Parts, which swim a top, and the remaining Liquor will be as clear as when clarified with the White of Eggs. Take of the Juice of *Brooklime*, *Water-Cresses* and *Scurvy-grass*, of each an equal Quantity, mix them with *Sweet-worts*, let it be work'd up with *Yest* or *Bawm*, and after turn'd up and settled, drink half a Pint each Morning in the Spring Season for the *Scurvy*. Its Juice enters the *Aq. Raphani comp.* and may enter the Compositions of several other *distilled antiscorbutick compound Waters*, fit for those affected with the *Scurvy*. Four Spoonfuls of the Juice of *Brooklime*, *Water-Cresses* and *Scurvygrass*, in equal Quantities, mix'd with two Spoonfuls of *Orange Juice*, and drank for ten Mornings together, is frequently prescribed in scorbutick Cases with great Success.

Male Speedwell is not much in modern Practice in *Britain*. It's recommended by *Tournefort* as *sudorifick*, *vulnerary*, *deterfive*, *diuretick*, and good for attenuating the tough and viscid Matter in the *Lungs*. The *Spirit of Veronica Mas* distilled with *Theriaca* is esteem'd a potent *Sudorifick*. Its *simple distilled Water* is recommended for *Diseases* of the *Lungs*, the *Stone*, and *Vapours*. The *Syrup* and *Extract* is prescribed to sweeten the *Blood*, and for *cutaneous Eruptions*. The *Skin* may be wash'd with the *distilled Water*, mix'd with a little *Vitriol*. A *Decoction* of the Herb with *Sugar* is esteem'd good in a *Collick*, and a *Sack-Possiet* with it and *Chamemil Flowers* drank hot for the same Disease; a *Tea* of the Herb is recommended. In a word, it seems to be a moderate *Astringent*, and as such it seems to be *vulnerary*, *deterfive*, and good in all the fore said Cases.

Anchusa, vide *Borrago*.

Androsæmum, vide *Hypericum*.

3
PHARMACO-BOTANOLOGIA:

O R,

An Alphabetical and Classfical
DISSERTATION

ON ALL THE

British Indigenous and Garden Plants

OF THE

New London **DISPENSATORY.**

In which

Their GENERA, SPECIES, *Characteristick* and *Distinctive*
NOTES are Methodically described; the *Botanical*
TERMS of ART explained; their *Virtues, Uses,*
and *Shop-Preparations* declared.

With many CURIOUS and USEFUL REMARKS,
from proper Observation: Together with suitable Di-
rections for Manuring and Cultivating Barren Grounds.

DECAD III.

By PATRICK BLAIR, M. D. of *Boston* in *Lincolnshire*,
and Fellow of the ROYAL SOCIETY.

*Miseri mortales qui Naturam ejusque artificium Abdunt, ubique
diligentia patens, & Amplissimos solis radios Nubecula ob-
fuscant.*
Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN, at the *Golden Ball*, over-against
the *Royal Exchange* in *Cornhill*; W. and J. INNYs, at the
West End of *St. Paul's Church-Yard*; and W. MEARS,
at the *Lamb* without *Temple-Bar*. M DCC XXV.

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THE
P R E F A C E
TO THE
Third D E C A D.



S I was going on in the Prosecution of this third Decad, the Alphabet led me to Aquilegia, a singular Plant, in which I observed so many Phænomena, that, instead of making up a Part of this Decad, it has swell'd to a separate Volume; in which are contained an Improvement of the Doctrine of the Sexes of Plants; with my thoughts concerning the Variations of the Colours of Flowers, and Multiplicity of Petals; enrich'd with several curious and useful Remarks and Observations. I designed to have entertained the Reader with that, before this Decad should be published. But some of my worthy Friends, and Correspondents, advised to delay the Publishing of it for some Time, in order to enlarge it with what farther may be observed, to render it more Useful and Entertaining.

That is the Reason, why this Decad has been so long in seeing the World; so that, as the other is shortly to follow, I have been advised to publish this for the present.

The P R E F A C E.

In this Decad, Anethum, &c. farther explain the umbelliferous Plants. Anonis introduces the papilionaceous Flowers. Anthora, Aquilegia, Aristolochia, Artanita, Asclepias, Asparagus, are of Tribes, wherein there are but few of a Family. Aparine brings in the Stellatæ; After the Corymbiferæ radiatæ; Atriplex the apetalous and emollient Pot-herbs; and Avena the Culmiferous and Corn Kind: To which is added, the Arundo, the largest of the Grass Tribe; with its Brethren, Miliun and Panicum.

Under the Head of Avena, I have taken Occasion to speak, not only of the different Sorts of Oats, but also of the Culture, Improvement of Arable Ground (whether Fertile or Barren) the different Methods of preparing it for Food, and its usefulness in Enclosures, for bringing up of Timber-Trees, Broom, &c. I have been the more particular on this Head, because, it having been neglected by the ingenious Writers of this Age, who only treat of Improving more fertile Grounds, I hope this will not be unuseful to those, who being possessed of such Lands, are unacquainted with the Use they make of Oats elsewhere.

Being in good Hopes this Third Decad will find the same favourable Reception which the other two have met with; I shall endeavour to have the Fourth in Readiness, when it shall be call'd for by the Publisher.

E R R A T A in the second Decad.

PAGE 69. Line 23. read *Anatomists*. p. 72. l. 29. r. *Annum*. p. 86. l. 6. for *Vegetation*, &c. r. *The TRIBE*. ibid. l. 22. for *The TRIBE*, r. *Vegetation of an Almond, and other Stone Fruit-Trees*, p. 93. l. 12. after *having*, dele the *Comma*.

E R R A T A in this Decad.

PAGE 102. Line 15. r. *Spec*. l. 27. r. *Ung*. p. 104. l. penult. r. *corniculatæ*. p. 115. l. ult. r. *Pomegranate*. p. 116. l. antepenult. r. *five*. p. 121. l. 12. r. *of an*. p. 122. l. 4. r. *for it is*. p. 130. l. 26. r. *aromatis'd*. p. 137. l. 6. r. *falls*. p. 118. l. ult. r. *phraffi*. p. 120. l. 23. r. *consists*.



PHARMACO-BOTANOLOGIA:

OR, A

TREATISE

OF

DISPENSATORY PLANTS,

Alphabetically and Classically disposed.

D E C A D III.

I. ANETHUM.



ANETHUM *Hortense*, C. B. P. 147. Tournef. 318. *Anethum*, I. B. 3. p. 2. 27. 6. Raii. Hist. 415. Moris. Umbellif. 36. Hist. 3. 311. Dod. pempt. 298. Will.

Description.

This *Umbelliferous Plant* has an annual fibrous *Root*, streight, dark green, hollow *Stalk*, about one or two Foot high, deep divided, compound, fennel-like *Leaves*, dark, bluish green, with thinner, narrow *Segments*, flat *Umbels*, and yellow *Flowers*; to each of which, succeed two flat *Seeds*, a little gibbous, and crested on the outside. The whole *Plant* has a peculiar high *Scent*. Its most frequent *Use* is among pickled Cucumbers,

Cucumbers, and pickled *Kali Geniculatum*, frequently eat as a Sallad, and Pickle, in *Holland* in *Lincolnshire*, instead of *Crithmum*, and upon that Account call'd *Samphire*. The *Seeds* are *carminative*, as most of the *Umbelliferous striated Seeds* are. It's commended as a *Specifick*, given in *Posssets*, for raising of Wind, and for the *Singultus* or *Hiccough*, and *Cholick Pains*; but because of its unpleasant Taste, *Fennel-Seeds* are justly preferr'd. The Shop Preparation is *Oleum Anethinum*, (made of the Juice or contus'd Herb) which is prescrib'd in *Ointments* for *Goutish* and *Sciatick Pains*; also for a *Tumefaction* in the *Left Side*, commonly call'd the *Spleen*. The *Seeds* are also commended for provoking of *Urine*, and expelling the *Stone*.

II. *Angelica*.

Angelica Sativa, C. B. P. 155. I. B. 3. 27. 140. Raii. Hist. 434. Moris. Hist. 3. 280. Umb. 9. Maj. Dod. Pempt. 318. *Imperatoria Sativa*, Tournef. 317. Garden *Angelica*.

III. *Imperatoria*.

Imperatoria Major, C. B. P. 156. Tournef. *Imperatoria*, I. B. 3. 2. 27. 137. Raii. Hist. 436. Moris. Umb. 10. Hist. 3. 278. *Astrantia* Dod. pempt. 720. Master-wort, falsly *Pelitory*.

The T R I B E.

Mr. Ray rightly observes, that *Angelica* is so noted a *Plant*, that it deserves the *Honour* of being the *Head* of a *Family*, and not a *Branch* of another; as *Tournefort* would have it to be the younger *Brother* of *Imperatoria*; for if we consider its lofty *Stature*, its large variously divided *Leaves*, its conspicuous *Spherical Umbels*; the gross *striated Seeds*; it will be found far different from the *Imperatoria*, whose *Stature* is mean and low; its *Leaves* very much less, and not divided altogether after the same *Manner*, by the *Flatness* of its *Umbels*; and its *Seeds* being more compress'd and flattish, they may be well look'd upon as two different *Genera*.

The Description.

II. *Angelica* is a tall *Plant*, arising sometimes to five or six Foot high, with a thick, gross, carnos *Root*, striking deep in the *Ground*. A tall, straight, hollow, jointed, branched (towards the *Top*) crested or striated juicy

juicy *Stalk* ; large, compound *Leaves*, *alata* winged, and *Lobata* lobed ; being for the most Part divided into three Branches, two lateral and shorter, the third streight in the Middle, and longer ; each of which are subdivided for the most Part into two Pair of *Pinnæ* or Wings, sometimes plain, and at other Places doubly, or triply lobed, with a triply lobed one always at the Extremity ; the *Lobes* oblong, blunt, and crenated, of a light Green and smooth. The Pedicles of the *Leaves*, from whose Bosom the upper *Branches* proceed, are broad, thin, membranous, surrounding the *Stalk* at the Joints ; making a Concavity or *Basin*, ready to receive the *Rain*. The *Umbels* are large and *Globular*, or *Spherical*. The small *Flowers* white. The *Fruit* is large and oval, consisting of two turgid (on one Side) or gibbous striated *Seeds*. It's a biennial *Plant*, seldom perfecting the *Seed* the first Year ; its Root is *carnous*, soft and *parenchymatous* the first Year ; the second it becomes harder, and after the *Seed* is ripen'd, it decays ; it's cultivated in Gardens, and propagated by the *Seed*.

III. *Imperatoria* or *Master-wort* has a small, long, round, jointed, running *Root*, about the Bigness of one's Finger, spreading superficially on the Ground, endow'd with many small Fibres from the Joints ; the *Leaves* *Lobed*, triply divided, and subdivided, broad, roundish, crenated, and light Green ; the *Stalk* hollow, small, striated, jointed, where it sends forth Leaves about one Foot high, with large flat *Umbels* of white small *Flowers* on the *Top*, with large *Fruit*, lightly striated, and much more compress'd than the former. It is propagated by the running *Root*. It is cultivated in *Gardens*. I have seen it sometimes in the *Fields* ; but for the most Part near to some Place, where Houses or Gardens have been formerly, so that I only look'd upon it as an *Ejectamentum*.

Virtues and Uses.

II. *Angelica* is a noted *Plant* for its *Virtues* ; of a hot, agreeable, aromatick, peculiar *Taste* and *Smell* : It consists of tenacious and subtile Particles ; is esteemed a potent *Cephalick*, *Stomachick*, *Alexipharmick*, good in *pestilential* Distempers, such as *malignant Fevers*, the *Plague*, and in other *contagious Diseases*. It is also a good *Hysterick* and *Hypochondriack* : It provokes the *Menses*, and expels the *Secundine*. All its Parts are used. There is frequently a dry *Candy* made of the *Roots*, and often of the *Stalks*. There may be a *Tea* made of the *Leaves*, or it may be used in *Ptisans*, in *malignant* and *pestilential Fevers*. The *Seeds* may enter *carminative* Decoctions for *Clysters*. The *Shop Preparations* are, *Aq. distill. simpl. comp. Epidemica* ; *Theriacalis*. The *Leaves* enter *Aq. Lactis*. The *Root* powdered in the *Pulv. Cardiacus Magistralis. Spec. Diambra*,

Diambra; *Conf. Raleighana*; *Elect. Amar.* Some pretend to Candy the Plant when growing, by putting powdered *fine Sugar* into the Concavity framed betwixt the exit of the *Pedicle* of the *Leaf* and Joint of the *Stalk*, which is dissolved by the *Rain* or *Dew*, and, as it were, forc'd into the *Fibres* by the Heat of the *Sun*. I have seen the Experiment try'd, and tasted some of the *Stalk* and *Root*. After some Time, it did conciliate some of the sweet Taste, but not very perceptible. Its peculiar Taste is not very agreeable to some, but generally speaking it gives a pleasant Flavour to those call'd *Angelica Waters*.

III. *Imperatoria*, or *Master-wort*, is a potent *Hysterick*: It is good in *Obstructions* of the *Menses*; it is *attenuating*, *discutient*, and *carminative*; a *Decoction* of the *Root*, and given in a *Clyster*, is an excellent *partum provocans*, and *secundinum expellens*. It is good in all Kind of flatulent *Distempers*, such as *Cholicks*. It is a good *Diuretick*, and expels the *Stone*. It is prescribed among *Ingredients*, to be infus'd in *Wine* or *Ale*, and drank every Morning for the obstructed *Menses*, and other *Hysterical Cases*. It enters the *Aq. Theriacalis*, and *Confectio Raleighana* of the new *Dispensatory*: Both the *Roots* of *Angelica* and *Imperatoria* should be kept dry in the *Apothecaries Shops* for the aforesaid Uses.

IV. *Anisum*.

Anisum J. B. 3. 2. 27. 92. Raii Hist. 450. *Herbariis semine majore* C. B. P. 155. vulg. *minus annum*. Moris. Hist. 3. 297. Umb. 25. *Apium Anisum dictum*, *semine suaveolente, majori*. Tournef. 305. vulg. Clus. Hist. 202. common Anise.

V. *Apium*.

Apium palustre & *Apium officin.* C. B. P. 154. Tournef. 305. Hist. des Plantes 391. Raii Hist. 447. Synops. 109. Moris. 3. 293. vulg. *ingratius* J. B. 3. 2. 27. 100. *palustre Paludapium dictum*. Moris. Umb. 22. *Eleoselinum* Dod pempt. 695. Smallage.

VI. *Petroselinum*.

1. *Apium hortense*, seu *Petroselinum vulgo*, C. B. P. 153. Raii Hist. 448. Tournef. Moris. *Apium hortense multis quod vulgo Petroselinum palato gratum planum* J. B. 3. 2. 27. 97. *Apium hort.* Dod. pempt. 694. common Parsley.

2. *Apium*, sive *Petroselinum Macedonicum multis*, J. B. 3. 2. 27. 102. *Apium Macedonicum*, C. B. P. 154. Tournef. Moris. Hist. 3. 293. *Semine villoso Macedonicum* Moris. Umb. 23. Macedonian Parsley.

The *TRIBE*.

Though these be near of Kin, and joined together by most Authors especially *Tournefort*, who often delights to change ancient Names; it is my Opinion they may be still kept separate: For though *Anisum* have some Resemblance to *Apium* in the Leaf, yet by the Taste, Smell, Umbel, and Seed, it is quite different: Though *Apium* and *Petroselinum* agree in Taste and Smell; yet in the Division of the Leaf, the Umbel and Bigness of the Seed, they differ: As for the *Macedonian Parsley*; by the Leaf, it may be esteem'd a *Smallage*, but otherwise a *Parsley*.

The Description.

IV. *Anise* is an annual Plant, with a small, streight, not much branch'd Stalk, about two Foot high; the Lower alternate Leaves whole, roundish and notcht; smooth, of a light green: The Upper thin set upon the Stalk, winged, consisting for the most Part of two Pair of oblong Segments, the narrower, and often more divided, as they ascend the Stalk; with an odd one, broad, first rounder, and afterwards more pointed and notcht in the Ascent. The Umbels protuberant, Flowers white, Fruit short, striated, bulg'd towards the Bottom; the two Seeds, flat on the Inside and convex on the Outside, of a greenish Colour, a pleasant Smell, and sweet aromatick Taste. It is sown in Gardens, and Flowers in June and July.

V. *Smallage* has a carnos, perennial, or rather biennial Root; for it often decays the second Year, after perfecting the Seed, endow'd with an hard woody Pith, when the Stem ascends to push forth the Flower. The Leaves are of a shining light green, variously divided, and sub-divided into larger Segments. The Umbels of white Flowers are small, globulous, upon short Stalks, several compactly growing together upon the Top of the Stalk; some plac'd at the Joints, where it is branched out, and others ascending higher, separate from the main Body of the Umbels, as it were so many Childlings: The Seeds striated and very small, of an high Scent, and peculiar hot Taste. It Flowers in June and July; grows in the Sides of Ditches and Drains almost every where in Holland in *Lincolnshire*, and several other moist and marshy Places, especially if near to the Sea.

VI. 1. *Common Parsley* has a white, carnos, perennial Root, like the former; striated Stalk, smooth, compound, variously divided into small narrow Segments. The Umbels of white Flowers large, and gibbous, striated brown Fruit, consisting of two Seeds, much bigger than the former. It is sown in Gardens.

2. *Macedonian Parsley* is rare in the *Gardens* of these cold *Climates*; its *Leaves* are like those of *Smallage*, but more divided and crenated, covered over with a white hairy *Down*. Its *Stalks* and small striated *Seeds* are likewise hairy, by which 'tis distinguish'd from the former.

Virtues and Uses.

IV. The *Anise* produces one of the most *carminative* and *useful Seeds* in the *Shops*: It is reckon'd among one of the four hot *Seeds* in the *Dispensatory*: It is prescribed as a good *Corrective* for such *Purgatives* as *Senna*, &c. to assuage the *Gripings* and discuss the *Flatulencies* that attend them in their *Operation*: It is so well known in the *Pastry-Cooks* and *Confectioner's Shops*, that I need not Name it. Nor is it a *Stranger* to the *Distillers*, who know how to Use it, to palliate the burnt and *Empyreumatick Taste* of their *distill'd Waters* and *Spirits*, which if they cannot be otherwise sold, must have the specious Title of *Anise Waters*. The *Dispensatory Compositions* are, *Aq. Absynth. minus comp. Doctoris Stephani. Fl. Chamemeli comp. Elix. Salutis. Syr. de Prasio. Looch sanans. Specidiatrium piperum. pulv. Sennæ mag. comp. Theriaca Androm. Elect. Diacath. Troch de Rabarb.* Its chief Preparation is the *Chymical Oyl*. It is of a sweet pleasant aromatick *Taste* to some, but others dislike it.

V. & VI. *Apium* and *Petroselinum* partake of the same *Virtues*, and have much of the same *Taste*. Their *Roots* are two of the five opening *Roots* in the *Shops*: They are very *Aperient* and *Diuretick*, used in *Ptisans*, and *Broth* in *Hectical Cases*; *Stopage of Urine*, the *Stone* and *Gravel*, and in the obstructed *Menses*. They enter the *Syr. de Artemis. de 5 Rad. Apium Roots* enter the *Syr. de Cichor. cum Rabarb.* Its *Seed* is in the *pulv. Diacalaminth. Phylon. Roman. Troch. Alkekeng. Troch de Rabarb.* Its *Juice* and *Leaves* in the *Mundificativ. ex Apio Uing. Nervin.* *Parsley Roots* enter the *Syr. de 5 Rad. Oxymel comp.* Its *Seeds* in *Pulv. Dialtheæ. Elect. de Baccis Lauri. Elect. Diacolocynth. Sem. Petroselini Macedon.* enters *Mithrid. and Phylon. Roman.* The dry *Roots* of *Apium* and *Petroselinum* should be kept in *Apothecaries Shops* for *Pectoral Ptisans*, *Infusions* or *Ingredients* for medicate *Ale* or *Wine* in the obstructed *Menses*, *Gravelly Cases*, &c.

VII. *Anonis.*

Anonis spinosa flore purpureo, C. B. P. 389. Tournef. 408. Hist. des Plantes 53. sive *Resta bovis vulgaris purpurea & alba spinosa*, J. B. 2. 17. 391. Tabern. Icon. 529. Raii Hist. 957. Synops. Stirp. Brit. 196. *Anonis* Dod. pempt. 743. *Rest Harrow, Stay Plough.*

The *TRIBE*.

I have already observ'd, that *tetrapetalous Plants* have their *petals plain*, and *uniform*: Or *dissimilar* and *difform*. This *Anonis* introduces the second; they are call'd *papilionaceous Flowers*, from the Resemblance they have to a *Butter-Fly*, with the spread out Wings, or to a Bird flying in the Air. They are call'd *Leguminous Plants*, from *Lego* to gather or *Legumen Fodder*. Their *Flower* consists of four *dissimilar Petals*. The *Vexillum* or large *Standard*, spread forth for the most, making the upper Part. The *Alæ* or two Wings *similar*, making the two Sides, and like to each other. The *Carina* or *Keel*, making the lower Part, and like to the *Body* of a *Butter-Fly* or *Bird*; it is so call'd from the Resemblance to the *Keel* of a *Boat*. It is folded, and contains eight *Stamina* or *Chives*, which closely united, make up a *Vagina* or *Sheath* terminating like a *Fringe* in eight *Summits*; all these enclose the *Embryon*, tender *Pod*, and defend it from the Injuries of the Air, until it be so strong, as the *Petals* decaying, it be capable to endure the Severity of the Weather, and the *Seeds* being impregnated by the *Farina* from the *Summits*, both they and the *Pod*, or Vessel which contains them, acquire a convenient Bigness. This *Flower* is enclos'd in a tubulous, green *Empalement*, superficially divided for the most Part into five *Segments*; some have the *Vexillum* or *Standard* large, and some less, and other small *Flowers* seem to want it intirely; they are succeeded by *siliquæ* large, and *siliculæ*, small *Pods* as has been observ'd. A great many of them have infirm flexible *Stalks*, some are endow'd with *claviculæ Climbers*, by which they grasp at, and climb up, whatever is near them; many have two simple *Leaves* arising from the Joints, but most have three *Leaves* or are *trifoliate*; they have a peculiar agreeable sweet *Taste*, which from this Kind of Plants is call'd a *Pea Bloom Taste*. Many of the *Seeds* are good Nourishment for *Men*, and most of the Herbs, whether green or dry, are good *Fodder* for *Beasts*.

This *Anonis* or *Rest-Harrow*, so call'd from the *Toughness* of its *Root*, is classed with the *trifoliated Leguminous Plants*.

The *Description*.

VII. It has a long *woody* running *Root*, so tough, that it is justly call'd *Rest-Harrow* or *Stay-Plough*; for I have known it resist the Force of a *Plough*, drawn by eight *Oxen*, and two *Horses*, spreading far in lee Ground, that has not been till'd up, nor fallow'd for some Time; from whence arise several *Twigs*, somewhat tender at first, but afterwards

wards *tough*, hard and *woody*, streight, jointed and branched ; with Leaves, from the Joints, three for the most Part from the same Exit, upon a short *Footstalk*, like the *Trefoils*, small, about half an Inch long, and *crenated* in the Edges with strong sharp Thorns ; upon the upper Part of the *Stalk* and *Branches* are plac'd the *papilionaceous* Flowers, *purplish*, and sometimes more *white*, of a moderate Bigness, from a hairy, *five pointed* *Empalement*, to which succeed small, flat, short, *Pods* ; each containing two or three *Kidney-Seeds*. It is a perennial Plant, its Root lasts for several Years, and in a short Time will over spread the Ground. Its Soil is a strong black Earth, or dry Clay, and sometimes gravelly Ground. It flowers in *June* and *July*.

Virtues and Uses.

VII. It is reckon'd among the five opening Roots, it is esteem'd a good *diuretick*, and is prescrib'd in *Ptisans*, *Diet-Drinks*, and such Compositions, for the *Gravel*, *Stone*, and Stoppage of *Urine* ; the Root being woody the *cortical Part* is us'd, which should be kept dry in the *Shops*. It is esteem'd good for the *Faundice* and *Obstruction* of the *Menses*, some prescrib'd the distill'd Water. It is recommended for dissolving of the *Sarcocoele*, and said to be *detersive* and *vulnerary* : All these good Effects may proceed from its penetrating fix'd Salt ; for I have procur'd more from its *Ashes*, than from the *Ashes* of any one Plant, except that of *Wormwood*, and it is probable, the *Saline Particles* may be more penetrating in the Plant itself, than in *Wormwood* ; which as I have observ'd, is too firmly united, and too much clogg'd with the *Terrene* Parts, to produce such visible Effects of an *Aperient*, or *Deobstruent* as this does, whose *Saline Parts* are more disengag'd.

VIII. *Anthora*.

Antithora fl. Luteo Aconiti, I. B. 3. 34. 660. Raii. Hist. 705. *Aconitum Salutiferum seu Anthora*, C. B. P. 184. Tournef. 425. Hort. Lugd. Bat. 8. *Aconitum Salutiferum Luteum tenuifolium sive Anthora*, Moris. Hist. 3. 463. *Zedoaria, Anthora, Aconitum Salutiferum*, Tabern. Icon. 112. *Anthora*, Dod. pempt. 442. Wholesome Helmet Flower.

The TRIBE.

This Plant is class'd with the *polypetalous Anomalous Flowers* by Tournefort, among the *Multisiliqua polysperma* or *coniculate* by Morison, and all his Followers.

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The Description.

VIII. Its *Root* consists of several small round tuberos *Globules*, sending small *Fibres* into the Ground. It has a straight *Stalk*, about one Foot high, surrounded by several dark green, deep cut, and variously divided *Leaves*, tending to a Roundness. The *Flowers* on a *Spike*, on the upper Part of the *Stalk* are of a pale yellow, *tetrapetalous*, consisting of four *dissimilar Petals*; the first of which is erect and hollow, like an *Helmet*, the two side ones, or as it were *Cheeks* to the *Helmet*, are almost round, and concave on the Inside; the fourth is also *concave*, hanging downward from the upper Part of the *Placenta*. Near to the *Embryon* or *Rudiment* of the Fruit, arise two long crooked *Tubes*, hid within the *Helmet*. In the Center are plac'd a great many *Chives*, with their *Summits*. The *Embryon* becomes afterwards three small *Pods*, bending outwards or terminating in small crooked *Points*, full of small *Seeds*. It is a *perennial Garden Plant*, flowering in *July*.

Virtues and Uses.

VIII. This *Plant* is so like to its Brethren the *Aconites*, and we have such dismal Accounts of their *poisonous* Quality, that it is much to be doubted whether it has the good Effects of being a gentle *Purgative*, good against *Worms*, &c. and that it proves such an *Antidote*, as to remove the *poisonous* Quality of the *Aconite*, is justly doubted; and however it may be call'd *Antithora*, because the *Aconite* is called *Thora*, and because it is an Enemy to its destructive Operation; they are too nearly related to be much trusted upon that Account.

IX. *Aparine*.

Aparine Vulg. C. B. P. 334. Tournef. 114. I. B. 3. 36. 713. Raii Hist. 484. Synopsf. 118. Moris. Hist. 3. 331. Goose-Grass, or Clivers.

X. *Asperula*.

Asperula odorata fl. Albo, Dod. pempt. 355. Mor. Hist. *Asperula sive Rubeola montana odora*, C. B. P. *Rubia montana odora*, Hort. Lugd. Bat. 529. *Rubiis accedens Asperula quibusdam sive hepatica Stellaris*, I. B. 3. 36. 718. Raii Hist. 483. Synopsf. Stirp. Britt. 117. *Aparine Latif. humilior mont.* Tournef. Hist. des Plants 389, Wood-Roof.

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XI. *Rubia*

XI. *Rubia Tinctorum*.

Rubia Tinctorum Sativa, C. B. P. 3. 333. Tournef. *Sativa*, I. B. 3. 36. 314. *Rubia* Dod. pempt. 152. Raii Hist. 480. Moris. Hist. 3. 326. Madder.

XII. *Gallium*.

Gallium Luteum, C. B. P. 335. Tournef. 115. Hist. des Plants 197. Raii Hist. 482. Synopf. Stirp. Brit. 117. Moris. Hist. 3. 327. *Gallium verum* I. B. 3. 36. 718. *Gallium* Dod. pempt. 355. yellow Ladies Bed-straw.

XIII. *Cruciata*.

Cruciata Hirsuta, C. B. P. 335. Tournef. Moris. Hist. 3. 328. Raii Hist. 479. Synopf. Stirp. Brit. 116. *Gallium Latif. Cruciata quibusdam fl. Luteo*, I. B. 3. 36. 717. *Rubia cruciata Hirsuta dicta*, Hort. Lugd. Bat. 529. Cross-Wort.

The TRIBE.

This is a very conspicuous, but short Class. Their general Title is *Plantæ Stellatæ*, because their Leaves are at certain Distances, from the Joints of a *quadrangular Stalk*, like a *Star*. Morison places them next the *Umbelliferæ improprie dictæ*, because two Seeds always succeed to one Flower. Boerhave calls them *Stellatæ Gymnodispermæ*, Tournefort joins them to his first Class, with the *monopetalous Bell Flowers*.

Their general Character is, that their Leaves are plac'd by Intervals at the Joints. Their Flowers are *monopetalous*, divided into four Segments, almost into the Center without an *Empalement*, but a little *tubulous* in the Middle, with four Chives correspondent to the sharp Segments; to which succeed two round Seeds, either *naked*, or each enclos'd in a loose dry Husk or Berry; the Flowers are sometimes situated round the Joints, or upon the Top of the Stalk, like the *Umbelliferous Plants*, thick set upon the upper Part of the Stalk.

Tournefort has thought fit to join *Asperula odorata*, and *Aparine* in one Genus, though the Habit of the Plant shews them to be much different.

The Description.

IX. *Aparine* or *Goose-Grass* is an annual Plant, with two large Seed-Leaves, to which succeed several long infirm rough *quadrangular jointed Stalks*

Stalks *surrounded* by five or seven narrow rough *Leaves*, upon the Joints at certain Distances. The *Flowers* arise from the same Joints at the upper Part of the *Stalk* upon long *Foot-stalks*; small, *pale yellow*, divided into four narrow *Segments*, to each of which succeed two round rough *Seeds*, near to the Bigness of *Coriander*. The whole *Plant* is so rough, that it easily sticks to what touches it; upon which it is call'd *Clivers*, as it were, *Cleavers*. It is also call'd *five* or *search* Grass, because some use to pass the new Milk through a Bunch of it to cleanse it from *Motes*, *Hairs*, &c. It is also call'd *Goose-Grass*, because the *Geese* or *Gooselins* eat it very greedily.

X. *Woodroof* is a perennial *Plant* with a small fibrous *Root*, several of the *quadrangular Stalks* arise thick together, streight, about one Foot high; its long narrow *Leaves* five or seven round the Joints, are not so rough, and lighter green. The *Flowers* are situated upon the Top of the *Stalk*, supported by small separate *Foot-stalks*, like the *Umbelliferous Plants*, white, larger than the former, and two *Seeds* like it, but not so rough.

XI. *Madder* has long, simple, round *Roots*, very numerous, and striking deep in the Ground, of a pure red. The *Leaves* long, narrow, but much larger than any of the rest; the *quadrangular Stalks* long and infirm, proportionally larger; the *Flowers*, from the Joints at the upper Part of the *Stalk*, to which succeed two round juicy *Berries*, black when ripe, each containing one *umbilicated Seed*.

Its Nourishment is so much exhausted in its far spreading *Stalks* and *Leaves*, and much *branched Root*, that it seldom produces the *Flower* and *Fruit* in our *Gardens*, but is easily propagated by the *Root*. It is cultivated in great plenty in *Wratistavia*, and *Alsatia*, and from thence exported every where for the Use of *Dyers*, as *Simon Pauli* asserts: It is cultivated in the *Gardens* in *Britain*; but however carefully the *Roots* are dried, they still dwindle to nothing but the outer *Bark*, without that firm, solid Substance the *imported Madder Roots* have; where 'tis indigenous is uncertain.

XII. *Yellow Lady's Bedstraw*, or *Cheese-Rennet*, call'd by the *French*, *Caile Lait*, from its Effect in curdling of *Milk*, has a small very fibrous *Root*, from which arise several very small, infirm, jointed *quadrangular* tough *Stalks*, surrounded with very small *Leaves* at the Joints for the most Part. The small yellow *Flowers* *monopetalous*, divided into four *Segments*, are very numerous, in Clusters upon the upper Part of the *Stalk* and *Branches*, to each of which succeed two small *Seeds*. The whole *Plant* is of a dark green; it grows plentifully on dry Banks and Way-Sides.

XIII. *Cross-Wort* has a small yellowish very *fibrous Root*, infirm, *quadrangular*, rough, jointed *Stalks*, sometimes emitting *radical Fibres* from the lower Joints, four broader *proportionally* than any of the former, rough or hairy blunt *Leaves* from each Joint, where it also sends forth in Whorles the small yellow *tetrapetaloid Flowers* three and three together, not always from the Bosom of the *Leaves*, but sometimes in Clusters from the opposite *Angles* of the *Stalk*; to which succeed two small rough round *Seeds*. It grows in Woods and shady Banks; also on the Sides of Ditches. It Flowers in *July*.

Virtues and Uses.

IX. *Goose Grass* seems to be a proper *Food* for *Goslings*, in which, as it were, by proper *Instinct*, they delight very much, as I know by Experience in the fattening of them in the Spring; for when they get Ground, *Malt* and *Milk*, or the like *fattening Substances*, being confin'd to an House or Pen, and without Exercise, they begin to be glutt'd and their Stomach clogg'd, then give them *Goose Grass*, which they greedily eat, and which by its Roughness cleanses the inner Surface of their Crop and Gizzard; so that the viscid Matter on their inner Surface is rubb'd off, as it were, and their Appetite is sharpen'd, as we see several gluttonous Birds, as *Pidgeons* swallow small Pebble Stones, to attenuate their gross Food, such as *Pease*, *Beans*, &c. and there is nothing more frequent in the *Management* of *Gose-hawks*, &c. than to give them pretty gross Pebble Stones, which passing through, carry along that viscid Matter which was the Cause of their loss of Appetite, and want of Digestion. This is what both Nature and Art has contrived to supply the want of Teeth in Birds, by which (as in other Animals) the *Contrition* or *Comminution* of the *Aliments* is perform'd. For its *Medicinal Use*; *Simon Pauli* says, the common People in his Country buy the *Distill'd Water* for Pains in the *Breast* and *Sides*. *Dr. Needham*, according to *Mr. Ray*, recommends the *Distill'd Water*, or its *Infusion* or *Decoction* in *Wine*, as an excellent Remedy for the *Stone* and *Gravel* in the *Kidneys* and *Bladder*; but it is not much used in modern Practice.

X. *Woodroof* is also but of little Use in *Physick*. *S. Pauli* says it is prescribed by some Physicians in *Vulnerary Potions* and *Emplasters*. The common People use to apply the *Juice* and *contus'd Herb* to fresh Cuts and Wounds, by which it seems to have a moderate Astringency, as indeed most of the Plants of this Tribe seem to be endow'd with.

XI. *Madder* is the most noted of any of them, for its *Physical* and *Mechanical Uses*; it is a Question not unreasonably propos'd by *Mr. Ray*, and several other more ancient Authors, Whether its *Medicinal Virtue* proceeds

proceeds from an inherent *Astringency*, or from *tenuous* and *subtile Particles*, by which it is esteem'd a good *aperient*. As an *Astringent*; its gross and earthy Parts in *tinging* or *dying* of *Flaxen* or *Linnen*, and *woollen Cloths*, with a deep red, being mix'd with a proportional Part of *viscid* and *gluish* Particles, by which, this Colour is render'd more *adhesive*, and durable, is plain and obvious; but that does not hinder it from consisting of *penetrating saline Particles* also, by which, the *Pores* of these small and slender *Filaments* are open'd, the gross Parts farther introduc'd, and more intimately conjoin'd with these soft and plyable Substances; so in the *Body*, these gross *astringent*, and earthy Parts, may serve to *incrassate* and *obtund* the *Liquid serous* and *acrimonious* Parts of the *Blood*, and render its *Crassamentum* more firm and compact, while its *tenuous* and *penetrating saline* Parts, may *attenuate*, cut, and divide the too gross and *viscid Particles*, and conciliate a more free Circulation to the *Blood*, dissolve what of it is grumous and coagulated, and remove the *Obstructions* of the *Capillaries*, by which it may procure the *fluxus menstruus* to be more regular, correct the *viscid Humours* in the *Jaundice*, obtund the *Acrimony* in the common and *bloody Flux*, provoke the *Urine* in *hydropical* Cases, and dissolve the *stony* and *gravelly* Substances in the *Kidneys* and *Bladder*; in which Respect, it may also prove a good *vulnerary* in *curbing* of the *proud Flesh*, *correcting* the *ichorous* and *acrimonious Serum*, and *dissolving* of the too gross Parts, so as well *digested* and *concocted Matter* may flow out at the *Wounds* and *Ulcers*. Therefore it is reasonably prescrib'd in most *Hysterical* Cases, especially, in the *Obstruction* of the *Menses* and *Lochia*; and its *Roots* which are most in Use, are frequent *Ingredients* in *Decoctions* and *Infusions*, in *Wine* or *Ale*, for that Purpose; also, for the *Hydropsy*, *Jaundice*, and other Cases where *aperient Medicines* are requir'd.

XII. *Gallium Luteum*, or *yellow Lady's Bedstraw*, so call'd from its Resemblance to *Straw* or *Hay*, when dry. It is esteem'd such an *Astringent*, that its Powder inwardly given, stops all kind of *Hemorrhages*, and *Fluxes of Blood*, by *encrassating* of it: This *coagulating* and *encrassating Quality*, is so well known by the *Ancients*, and to the *Moderns*, for *curdling* of *Cheese*; that beside several Instances. 'Mr. Ray takes Notice, that Gerard reports, that the Inhabitants of *Nantwich*, his native Country, where the best *Cheshire Cheese* is made, mix the *Flowers* of this *Gallium Luteum* among the *Runnet*, and obtain thereby, much more *Cheese* than otherwise.

'It is memorable what Dr. M. Lister reports from Olaus Borrichius, (as related by the same Mr. Ray) who perform'd the following Experiment. He put some *Handfulls* of the fresh *Flowers* of *Gallium Luteum*, immediately after the *Morning Dew* was dry'd up, into a *Cucurbite*, and made what haste he could to put *Fire* to it, to pre-

vent the Injuries of the Air, and so set it a *distilling*. He first procur'd an Ounce of the *insipid Serum*, having some of the Fragrancy of the Flowers; after that, three Ounces of *Vinegar*, not of a very disagreeable *Taste*. Upon augmenting the Fire, he next obtain'd about two Drams of a yellow Oil, mix'd with this *acid Liquor*, neither was this of an unpleasant *Smell*; and thus having extracted the acid, by continuing the Operation some Hours, with a gentle Sand Heat; it evidently appears, this *acid coagulating Spirit* is inherent in the *fresh Flowers*, without any previous Fomentation, such as happens to other Vinegars, which is very singular; for this *acid* being mix'd with new Milk, immediately *curdled* it, as other *Vinegars* use to do. The same Experiment was try'd upon the *Acetosa*, but none of this insipid Liquor was obtain'd, so that the acid of the *Gallium*, seems to be much more subtile and volatile, than of the *Acetosa*: Raii Hist. 482. The Herb is not much us'd in Physick, neither is that of

XIII. *Cruciata*, or *Crosswort*, which is also look'd upon as an *astringent* and *vulnerary*, both *inwardly* given, and externally *apply'd*; it is by *Camerarius*, recommended as good against Ruptures.

Apium, vide *Anisum*.

XIV. *Aquilegia*.

Aquilegia Sylv. C. B. P. 144. Tournef. 428. Hist. des Plants 393. Moris. Hist. 457. *Aquilegia* Dod. pempt. 181. *Aquilegia flore simplici*, J. B. 3. 30. 484. Raii Hist. 706. Syn. 155. *Columbines*.

The *TRIBE*.

Tournefort classes this among the *polypetalous anomalous Flowers*: A Class whose *Flowers* differ very much from each other, but most of them have a Resemblance in the *Fruit*; and therefore by Dr. Morrison and all his Followers, it is reckon'd among the *Plantæ Polyspermæ Multifloræ Corniculatæ*; to whose *Flower* succeed several horned *Seed-Vessels* joined together, each of which contain several *Seeds*.

The *Description*.

XIV. *Columbines*, so called from the Resemblance of several of its *Petals* to a *Dove*, has a gross carnous *Root*, larger than the Bigness of ones Thumb; *perennial*, and running deep in the Ground; divided first
into

into larger *Portions*, then into smaller *Fibres* as it descends : From whence arise several long *Pedicles*, or *Foot-stalks*, sub-divided for the most Part into three lesser *Foot stalks*, each supporting three bluish green, blunt, broad, *lobed Leaves*, like those of the *Thalictrum*, according to some, but rather like unto those of the *Chelidonium maj.* Amidst these arises a small, round, straight, jointed, branched, somewhat rough *Stalk*, with its *Branches* from the Bosom of the *Foot stalks* of the *Leaves*, at the *Joints* of the *Stalk*; both support several fine pendulous *Flowers*, hanging upon small *Foot-stalks*, consisting of ten *Petals*; five of which are plain, small at the exit, and afterwards being enlarged, spread forth like *Wings*; betwixt these, are five other hollow *Petals*, bended inwards like a *Horn*, but ending in a kind of hollow *Button*: Its Figure is not unjustly compar'd to a *Cornucopia*, (a Bundle of *Flowers* so painted by the Ancients.) According to *Boerhave*, this *Tube* or *Hollowness* is enlarg'd towards the lower Part, and bending outwards, all these being joined in the Center, there arise many *Chives* with yellow *Summits*, loaded with a great Quantity of the *Male Dust*; and surrounding a *Pointal*, consisting of five or six small green *Portions*, which become so many oblong or flatish *Seed-Vessels*, bending outwards like so many *Horns*; being *corniculated Pods*, opening at the upper Part, endow'd at the back Part with a longitudinal *Placenta*; to which adhere several small, black, shining *Seeds*, not unlike those of *Millet*. It flowers in *May* and *June*, and is easily propagated both by the *Seed* and *Root*; that with the blue simple *Flower*; (from which I look upon all the other to be only *Variations*, as we shall shew in a little while) is said to grow wild in the Woods, and near to Hedges, but rarely here in *England*. I have seen it grow wild in a Wood on the Banks of the River *Tay*, betwixt the *Castle of Kinclaven* and *Inernity* in *Scotland*; but I suspected it to be an *Ejectamentum*, there being a ruinous Chapel within a Quarter of a Mile of it, though I saw no other Plant which I suppos'd to have come from a *Garden* but itself.

Virtues and Uses.

XIV. This Plant seems to be endow'd with *subtile, penetrating, saline Particles*; by which a *Gargarism* of a *Tea* or *Decoction* of its *Leaves*, is esteem'd a noted *Remedy* for a *sore Throat*, and to cleanse the proud *Flesh* of the *Gums* corrupted by the *Scurvy*. *Tournefort* recommends a *Tincture* of the *Flowers*, made with *Spirit of Wine*, for the same Purpose; and says, it is an *incomparable Remedy*, if mix'd with the following *Tincture*—
Take ʒij *Gum Lacc*, and ʒj of *Mastick*; dissolve both in *Spirit of Wine*, so as to make a strong *Tincture*, with which you may mix a proportionable

nable Quantity of this *Tinctura Aquilegia*. Its Seeds are esteem'd potent *Diureticks*, and therefore are prescribed in most Obstructions of the *Viscera*, and in the *Faundice*; in which Case I have frequently used it among other *Icteric Medicines* with good Success. *Leselius* prescribes *Pulv. Sem. Aquileg. ʒj Croci. pulv. gr. x. pro dosi* for that *Distemper*. It is likewise said to be a good *Partum Provocans*, and that the *distilled Water* is a good *Cosmetick* for smoothing the Skin of the *Face*. It is said to be good for strengthening of the *Sight*, and removing the Dimness of the *Eyes*: All which must proceed from its subtile penetrating *Salts*.

N. B. I have discoursed at large on this *Aquilegia* in a separate Dissertation, to which I refer the Reader.

Argentina, vide Pentaphyllum.

XV. *Aristolochia*.

1. *Aristolochia Longa vera*, C. B. P. 307. Tournef. Instit. 162. T. 71. *Longa*, J. B. 3. 22. 560. Moris. Hist. 3. 509. Raii Hist. 761. Dod. pempt. 354. Long rooted Birthwort.

2. *Aristolochia rotunda flore ex purpureo nigro*, C. B. P. Tournef. Instit. *rotunda*, J. B. 559. Dod. pempt. Moris. Raii Hist. 762. Round Birthwort.

3. *Aristolochia Clematitis recta*, C. B. P. *Clematitis vulg.* J. B. 560. *Sarapenica* Dod. pempt. Moris. Hist. Raii Hist. Tournef. Hist. des Plantes 175. Running rooted Birthwort.

The T R I B E.

These Plants are justly term'd *anomalous* by Tournefort, because of the Singularity in their *Fruit* and *Flower*, which he compares to a *Tongue*. Mr. Ray calls them *flores diffformes*, a Term I do not understand, since they have all their constituent Parts, as regular as any other, according to the Shape assign'd to them by Nature; and therefore I do not love Rivinus Distinction into *regular* and *irregular*: Indeed in *polypetalous Flowers*, they may be distinguish'd into *similar* and *dissimilar*, not being of the same Shape and Bigness, as in the foregoing *Aquilegia*; but that will not hold in *monopetalous Flowers*, v. g. in the *Lip Flowers*; they may be call'd *Oris Inæqualibus*, but they cannot be call'd *Irregulares*, so long as they keep up to the *destinated Rules*. Their *Flower* is of a peculiar Shape, being hollow, protuberant at the *Base*, where they cover the Embryon, when they are contracted into a small Pipe or Tube, which is afterwards expanded into an Oblong, somewhat blunt, hollow

low Portion, not unfitly compared to a Concave Tongue. It has no *Empalement* without, and within is lodged an *Hexagonal Ovarium*, with a Button: of the like Figure, surrounded by twelve very short *Chives*. The Fruit becomes *oval*, *six cornered*, *membranous*, like unto the *Melopepo*, about the Bigness of a *Walnut*; in which are lodged several small, unequal, cornered; somewhat compressed *Seeds*. This Texture of the Fruit makes it be number'd among the *Multisiliqua*, or rather *Multicap-sulares* by *Morison*, and *Polyangia-Polysperma* by *Herman* and *Boerhave*.

The Description.

1. The first has a long, gross, thick, *perennial Root*, about the Bigness of ones Wrist, and near one Foot long, if it has been any Time in the Ground; sending forth several small Fibres from the lower Part. The numerous *Stalks* not much branch'd, are weak, infirm, and *quad-rangular*. The alternate *Leaves* without *Pedicles*, are heart-like, sometimes blunt, at other Times pointed, with two subrotund Lobes at the Base; by which they almost surround the *Stalk*, somewhat concave above, and convex below, of a thin Texture and pale green Colour, about one Inch broad at the Base, and one and a half Inch long. The *Flowers* (upon *Pedicles* one Inch long, from the Bosom of the *Leaves*) are greenish white. To which succeeds the *Hexagonal*, or roundish Pear-fashion'd Fruit, about the Bigness of a *Walnut*.

2. The Second has a round, hard, large, Knobby *Root*; the *Leaves* and *Flowers* are less than the former: The *Flowers* of a pale yellow, with a blackish red Border. Both these are planted in Gardens, and flower in May and June.

3. *Aristolochia Clematitis*, is the largest of the Three: Its *Stalks* arise much higher, is pale green, having large Leaves upon long *Pedicles*; the *Fruit* is larger, about the Bigness of a small *Apple*; its *Root* is long, small, very running; it is not so rare as the two former. I have seen it grow wild in *Flanders*, near *Ghent*; and near *Vilvorde* in *Brabant*.

Virtues and Uses.

XV. The long, but especially the round *Roots*, are chiefly used in the Shops. They seem to consist of tenuious and subtile Particles, mixt with drying and earthy ones. They are frequently prescrib'd among Ingredients for Infusions in Wine or Ale, for *Histerical Cases*; also in the *Ob-stru&tion mensum*, and *Lochiorum*: The Powder of *Aristolochia Rotunda* is either apply'd alone to sordid, or *Cacoethes* Ulcers for the curbing of proud Flesh, or it may be mixt with the *Pulv. Myrrh& Aloes*: Some

also make a Tincture of it with them, among Spirit of Wine for the same Purpose. The *Longa* enters the *Theriaca Andromachi*.

Armeniaca Malus, vide *Amygdalus*.

XVI. *Artanita* Offic. *Cyclamen*.

Cyclamen Hederæ folio C. B. Pin. 308. Raii Hist. 1206. Mor. Hist. 3. 552. Sect 13. Tab. 7. Tourn. Inst. 155. *Cyclaminus folio anguloso* I. B. 3. 553. *Cyclaminus orbicularis* Dod. pempt. 337. Sow Bread.

The *TRIBE*.

This Plant is plac'd among the *monopetalous Wheel Flowers*, by Tournefort. It is justly class'd among the *Monocotyledones* by Boenhavé. Mr. Ray places it among the *bulbosis Affines*. And Morison calls it simply a *bacciferous Plant*.

The Description.

It has a round knobby Root, blackish without, and whitish within; the Leaves are broad, and angular, not unlike those of Ivy, lightly indented about the Edges, dark green above, interspers'd with several white Spots, and a whitish Line about the Middle; purplish below; spread upon the Ground; its Flowers arise from proper *Pedicles* from the Root, and being bended downwards, their Base appears first above Ground, about the Beginning of September, or in the Autumn; being spread forth, they are deeply divided into five narrow pointed *Segments*, of a bluish or purplish Colour, and bended backwards, terminating in a hollow Tube, endow'd with five *Stamina*, to which succeeds a round *globular Seed*, or rather *Bulb*, which when committed to the Ground, sends forth one single Seed Leaf, like the Tubercles on the Top of the Stalks in *Garlicks* and *Onions*.

Virtues and *Uses*.

It seems to consist of sharp and acrimonious Particles; and is chiefly prescrib'd in *Cataplasms* and *Liniments* against Worms; such as the *Ung. de Artanita*, made of the Juice of its Leaves, or Decoction of its Root. Some recommend it for a *Looch* and *Menses provocans*; and its Juice as a potent *Errhine*. But as there are several as effectual Medicines for these Uses, this is not much in modern Practice on that Account.

Artemisa,

Artemisia, vide *Absinthium*.

Arum, vide *Dracontium*.

Arundo, vide *Avena*.

XVII. *Asarum*.

Asarum, C. B. P. 197. J. B. 2. 32. 548. Tourn. Inst. 501. Hist. des Plantes 318. Raii Hist. 207. Mor. Hist. 3. 511. Dod. pempt. 358. *Asarabacca*.

The *TRIBE*.

I rather go into Dr. Morison's Sentiments of placing this among the *multicapsulares Polysperma*, than with Mr. Ray, to place it among the *flores imperfecti*, since there can be no such Thing as a *flos imperfectus*, when all the Parts requisite to constitute such a Genus, are still present, neither can you look upon it as an *apetalous Flower*, with Tournefort and Boerhave, since what they look upon as a *Calix*, may be as well esteem'd a *monopetalous Flower*, without an Empalement; divided into three Segments. Since according to Tournefort's Notion of a Petal, it must be *colore insignis*: Besides; it does not answer the Definition of the *Fructification* of an *apetalous Flower*; *Enimvero* (says he) *quæ petala dici possunt pro calice habendi sunt, cum abeant in seminis involucrium adeoque necessum est ut eorum pistillum in semen abeat*; whereas here, neither do the three Segments become the *seminis involucrium*; for they still remain distinct from the *Capsula*, and of a different Colour from the *Bottom*, or the *Calix*, one being green, the other purplish; nor does the *Pistillum* become *one Seed*; for the *Ovarium* is for the most part divided into six Pouches: Tho' Herman says, it's only *tricapsular*, which afterwards become a *Fruit*, containing several *Seeds* in each Pouch.

The Description.

XVII. It has a small Root, about the Bigness of a Quill, divided below into several small *Fibres*, gather'd together into one Head at the Top; each of them send forth two dark Green stiff Heart-like roundish Leaves without Stalks, but upon long Foot-Stalks; it being a low Plant spread on the Ground. The *Flowers* proceed from the *Foot-Stalks*, below the Leaf, oblong, hard, like a *Pomegrante Flower*, Green

at the Bottom ; divided at the Top, into three dull Purplish, or cream Colour Segments ; the Ovarium is endow'd at the Top, with six bend-ed Buttons, round it are plac'd twelve Stamina ; it afterwards becomes a Fruit divided into six Pouches, full of small Seeds ; it is an ever Green, the Leaves remaining fresh all the Winter ; it flowers early in the Spring ; but they are seldom seen, unless you turn up the Leaf : It is cultivated in the Gardens, and delights in moist shady Places. *Asarum*, C. B. P. Dod. grows plentifully (as I have been lately advis'd, by the expert Mr. Thomas Knowlton, Gardiner to Mr. James Sherard, at his Seat at Eltham in Kent) at the Bottom of Chernal-Green, the first Field in the Hedge Row, on the left Hand, as soon as you enter the Gate going to Sir Thomas Seabright's Beach-Wood in Hartfordshire.

Virtues and Uses.

XVII. It consists of acrimonious, subtile and saline Particles ; it is a noted emetick, well known to Gardiners, and frequently call'd for by the Country People, one, two, three, or more, according to the Patient's Strength. The Leaves infused among Small-Beer one Night, is a competent Dose ; those that are of a strong Constitution, may take two, three, or more : It both Vomits and Purges, and is recommended in intermitting Fevers, the Dropsy, Gout, Sciatica, and more particularly in the common and bloody Flux. The dry'd Root is kept in the Shops, and given in Powder to a Scruple as an Emetick ; but its Quality is not so strong as when green. I have given five or six Grains of the Powder of the dry'd Leaves with great Success, being taken by Way of an Errhine, or Snuff at the Nose at Bed-time ; it causes a violent Sneezing, and towards the Morning it becomes a potent Sudorifick ; let the Patient's Head be very well cover'd all Night, and it becomes an effectual Remedy in a violent and inveterate Head-ach. It enters the *Theriaca Andromachi*.

XVIII. *Asclepias*.

Asclepias albo flore C. B. P. 303. Raii Hist. 1098. Tournef. Instit. 94. Hist. des Plantes 55. sive *Vincetoxicum multis fl. Albicantibus*, J. B. 2. 15. 138. Moris. Hist. 3. 611. *Vincetoxicum* Dod. pempt. 407. Swallow-wort.

Virtue

The T R I B E.

This Plant is justly reckon'd among the *Anomala* by Dr. Morison, since it cannot be brought into any Class, as to its Flower: And for the Fruit, it is the nearest of any to the *Apocinums*, because of its pappous Seed. Tournefort brings it in among the *monopetalous Bell Flowers*, tho' it does not very well suit with that Figure. Mr. Ray places them among the *Flores pentapetaloides vasculiferae*; and Herman and Boerhave very justly among the *Siliquosae*.

The Description.

XVIII. It has a very fibrous Root, from whence arise several straight Stalks, one or two Foot high, hairy and jointed. The Leaves from the Joints by Pairs upon Foot-stalks bended upwards, are oblong, broad at the Base, and pointed, shining green like those of Ivy. The Flowers upon small separate Foot-stalks from the Bosom of the Leaves, are whitish, narrow, oblong, *monopetalous*, deeply divided into five narrow pointed Segments; endowed with a tubulous *pentaphyllous Empalement*, and a green Pointal in the middle, surrounded by five Stamina and two Summits. The Pointal becomes a long Pod, divided into two Pouches filled with broad flat downy Seeds. It is cultivated in the Gardens and Flowers in June and July.

Virtues and Uses.

XVIII. It is esteem'd a potent *Alexipharmick*: The dry'd Root is kept in the Shops, and it is reckon'd good in the Dropsy and Jaundice, but it is not now much in Use.

XIX. *Asparagus*.

Asparagus sativa, C. B. P. 489. Tournef. Instit. 300. *Hortensis* & *pratensis*, I. B. 3. 36. 721. Raii Hist. 683. *Domesticus*, Moris. Hist. 2. 3. Garden Asparagus.

The T R I B E.

It is placed among the *baccifera non scandentes*, by Morison and all his Followers, except Tournefort, who places it among the *rosaceous Flowers*.

The Description.

XIX. This noted Plant has a great many grofs, large, white Roots, about the Bigness of ones Finger, running deep in the Ground, and gathered together in one Head, at the Top: From whence arife, in the Months of *April* and *May*, round, ftrait, naked Shoots, about one Foot high; afterwards fending forth small, round, finooth, dark green Branches; from a ftrait, round, marrowy Stalk; fometimes afcending to above four or five Foot high: The numerous Branches are cloathed with five or fix small capillary green Leaves, like thofe of *Fennel*, from one Beginning: Among which are finall, yellowish, pentapetalous, naked Flowers, endow'd with fix Chives; to which fucceed fo many round Berries, red when ripe; containing feveral black roundish Seeds. It is planted in the Gardens. The Root will continue many Years, fending forth new Shoots every Spring; well known to the Gardiners, and much esteem'd for Kitchen Ufe, becaufe of the Tendernefs and fweet delicious Taffe. It is alfo propagated by the Seeds, but it is fome Time before it is fo large as to be of Ufe.

Virtues and Uses.

XIX. Its Root is numbred among the five opening Roots, in the Shops; and esteem'd very nutritive and aperient; and becaufe of its agreeable Taffe, is very fit to be boil'd in Broths, nourifhing and ftrengthening Jellies, and Ptifans, for confumptive Persons. It enters the *Syr. de quinque radicibus*. The Seeds are alfo esteem'd aperient, and enter the Compoſitions for the Jaundice, Dropſie, Gravel, &c. Both Roots, Shoots, and Seeds, are ſaid to be *ad Venerem provocantia*.

Asperula odorata, vide *Aparine*.

XX. *Asphodelus*.

1. *Asphodelus albus ramosus mas*, C. B. P. 28. Tournef. Inſtit. 343. *albus ramosus*. Morif. Hiſt. 2. 330. *Major flore albo ramosus*, I. B. 2. 19. 625. Raii Hiſt. 1191. *Asphodelus*, 1. Cluſ. Hiſt. 196. White *Asphodele*.

2. *Asphodelus luteus*, I. B. 2. 19. 632. Raii Hiſt. 1192. *luteus* & *flore* & *radice*, C. B. P. Tournef. Inſtit. 344. *folio fiſtuloſo ſtriato non ramosus luteus*, & *flore* & *radice*. Morif. Hiſt. 2. 331. *Luteus minor*, *Iphyon Theophaſti* & *Anguillara*, *Erizembac Arabum* Lob. Icon. 91. Yellow *Asphodele*.
The

The *TRIBE*.

This is the second Tribe of *liliaceous Flowers* I have met with. It is reckon'd by *Morison* among the *hexapetalæ Tricapsulares*. By *Ray*, among the *Bulbosis Affines*. And by *Boerhave*, among the *Monocotyledones bracteatae*.

The *Description*.

XX. 1. The first or white *Asphodel*, has a great many Knobs adhering to smaller *Fibres*; and all gathered together in one Head; from whence proceed several oblong, narrow, pointed, dark-green, spongy, juicy *Leaves*; amidst which, arises a strait, marrowy, smooth *Stalk*, about two or three Foot high; sending forth thin set large *Branches*; at the Top adorn'd with several white *Flowers*, hexapetalous, or consisting of six white *Petals*, Star-like; and endow'd with as many *Stamina* or *Chives*; The Pointal afterwards becomes an oblong *Fruit*, or *Berry*; divided into three *Pouches* fill'd with several three-corner'd *Seeds*.

2. The Second has its knobby *Roots*, much less; of a yellow Colour, and affording a yellow Juice: Its *Leaves* much smaller and thicker; its *Flowering Stem* in the Middle, is strait, arising above two Foot unbranched, loaded with *Flowers* from the Middle upwards; its Flower like the former, but yellow; the Fruit the same.

Vertues and Uses.

Its *Roots* are esteem'd a potent *Diuretick*, and good for provoking the *Menses*; but they are not now much used in Medicines.

Asplenium, vide Adiantum.

XXI. *Aster*.

1. *Aster Atticus cæruleus, vulg.* C. B. P. 267. Tournef. Instit. 481. *Atticus purpureo flore*, I. B. 2. 24. 1044. *Italorum purpurascens*, Lob. Icon. 345. Raii Hist. 268. Moris. Hist. 3. 119. *Atticus*, Dod. pempt. 266. Common Starwort.

2. *Aster omnium maximus, Helenium dictus.* Tournef. Instit. 483. Hist. des plantes, 396. *Helenium vulg.* C. B. P. 276. Dod. pempt. 344. Raii Hist. 273. Synops. 81. *Helenium sive Enulacampana*, J. B. 3. 26. 108. Moris. Hist. 3. 129. Elecampane.

The

The *TRIBE*.

These *Plants* introduce the *radiate* Kind so called by *Tournefort*. Mr. *Ray* says, they are *flore Discoide semine papposo*, by which they are distinguish'd from the *Corymbifera Radiata*, which are *seminibus pappo destitutis*. *Herman* places them among the *Pappescentes & Laetescentes*. *Boerhave* calls them *Gymnomonosperma disciflora*. But *Morison* rightly calls this *Genus*, *Pappescentes & non Laetescentes*. The general Character of this is, that they have a common *Empalement*, endow'd with a *Thalamus*; in which are coucht several small *strait Embryons*, surrounded by small downy *Hairs*, on the *Top* of each of which, are placed so many *Flosculi*, which occupying the *Middle*, are call'd the *Discus*, and surrounded by so many *Semiflosculi*, which make up the *Radius*, the *Embryons* become so many oblong *Seeds*.

The *Description*.

XXI. 1. This purple *Italian Starwort* (being one of a great many *Species*, particularly noted for an *Officinal Plant*, tho' most of the others partake of the same *Virtues*) arises from a small *fibrous Root*, into several small, round, hard, hairy, reddish *Stalks*, about one Foot and a half high; adorn'd with oblong, narrow, pointed, dark-green *Leaves*, alternately plac'd. Towards the *Top* it is subdivided into several smaller *Branches*; each supporting a *Flower* about the Bigness of a *Daisy*; whose *Radius* consist of bluish or purplish *Semiflosculi*; and *Discus*, or *Umbo* of small yellowish *Flosculi*; to which succeed small, naked, downy *Seeds*. It is cultivated in *Gardens*. Its *Root* is perennial and very running. Flowers in *July* and *August*.

2. Tho' the *Helenium* has all the *Characters* of an *Aster*, and is by *Tournefort* reckon'd as such; yet it has peculiar distinctive *Notes*, by which it may be reasonably treated separately: However, I have thought fit to discourse of it in this Place, because the accurate *Boerhave* goes into *Tournefort's* Sentiments. It has a big, gross, carnos, perennial *Root*, increasing considerably, according to the Time it has remain'd in the *Ground*, divided into several *Branches*, dusky without, and whitish within; from whence arise several gross, large, round, hairy, whitish, marrowy *Stalks*: Some 3, 4, or 5 Foot high; adorn'd with long, large, broad, pointed, soft, whitish *Leaves*: Those from the *Root* incline towards the *Ground*: Those on the *Stalks* are alternately plac'd. The *Top* of the *Stalk* is subdivided into several smaller *Branches*, each supporting a large yellowish *Flower*, larger than those of a *Marigold*,

and somewhat less than a *Sun-Flower*, whose *Radius* consists of several small five pointed half *Flourishes*. And Disks of several *Flourishes*, superficially divided into five pointed Segments, as other *Corymbiferous Flowers*: To which succeed small, oblong, downy *Seeds*.

Virtues and Uses.

XXI. 1. The common *Starwort* (otherwise called *Inguinalis*) is scarce in modern Use; tho' it has been commended by the Antients for *Tumefactions* of the *Glands* in the *Groin*, such as *Buboes*, &c.

XXI. 2. The Roots of *Helenium*, or *Enulacampana*, is only in Use. It is esteem'd one of the most potent *Antiscorbuticks* of all the vegetable Part of *Materia medica*. It is attenuating, discutient, and absorbent: It is of and acrimonious bitter, glutinous, and somewhat *Aromatick Taste*. It is look'd upon as a good *Stomachick*, *Pectoral*, *Diuretick*, and good for provoking the *Menses*. It is kept dry in the *Shops*, and is an *Ingredient* in *Antiscorbutick* and *Histerical Compositions*, for *medicate Infusions*, in *Wine* or *Ale*: Its *Powder* enters in *pectoral Electuaries*; such as the *Pulv. Helenii*, *Liquiritiæ*, *Iridis Florentinæ* a' ʒj. fl. sulphuris ʒss mellis communis q. s. f. *Linctus*, for inveterate *Coughs*, to attenuate the gross and tough *Defluctions*. It is employ'd externally, and in the ung. enulatum cum mercurio, being esteem'd a potent *Remedy* against *scorbutical Eruptions*. The *Root* is likewise candied and chew'd, as some do *Tobacco*, for *Coughs* and *Consumptions*. It also enters *Pectoral Syrups*, such as *Syr. de Erysimo*, *Aqua Absynthii composita*, *pulv. Diacynamomi*, *Theriaca Londinensis*, &c.

Tho' the *Tripolium*, or *Sea Starwort*, be not an *Officinal Plant*; yet since it grows most frequently in these Parts where I live, and affords a most agreeable Aspect, I thought fit to insert it here.

Aster maritimus caruleus, *Tripolium dictus*, Raii Hist. 270. *Aster caruleus glaber littoricus pinguis*, *Tripolium dictus*, Moris. Hist. 2. 121. *Tripolium majus* & *minus*, I. B. 2. 24. 1064. C. B. P. 267. *Sea Starwort*.

The Description.

This Plant has a very fibrous annual *Root*; from whence arise, in the Spring, several oblong, flat, stiff, shining, dark-green, pointed *Leaves*. The flowering Stem in the Middle, is gross, thick, round, hollow, jointed, adorn'd with Leaves like the former; branched towards the Top (it being usually one or two Foot high) supporting several *Radiate Flowers*, whose *Radii* are blue, and *Umbo*, or *Discus* yellow, like the common *Starwort*; to which succeeds a great many small pappous *Seeds*. It grows most plentifully along all the Sea Coast in *Holland* in *Lincolnshire*,

shire, on the Sides of all the Ditches and Drains: It delights in moist Places overflow'd by the Tide. It flowers in *August*, when it affords an agreeable Spectacle. Mr. Ray says he has observ'd it with a *naked Flower*. I suppose he has taken it for such before the *Radii* begin to appear; for it peculiar to this Plant that the *Flosculi*, or *Flourishes* appear a long Time before the *Semiflosculus* or *Radius* is seen. Mr. Ray also proposes, that there are two Kinds; one perennial, and the other annual. But this I suppose, is because some may have risen from Seed late in the Year, and endured all Winter, and flower'd the following Year.

Astrantia, vide *Imperatoria*.

Atractylis, vide *Carthamus*.

XXII. *Atriplex*.

T. Atriplex hort. alba, I. B. 2. 23. 970. *Hort. alba*, sine pallide virens, C. B. P. 119. Tournef. Instit. 505. Moris. Hist. 2. 606. Raii Hist. 191. *Sativa alba*, Lob. Icones 253. Garden Orach.

The *TRIBE*.

This introduces a new Tribe of *apetalous Flowers*, whose Character by *Tournefort*, is, that it has a pentaphyllous *Empalement*, surrounding several yellow Summits; to which succeeds one single round or flat Seed, enclos'd in a two leav'd *Capsule* or Seed Vessel.

The *Description*.

It is an *annual Plant*, with a strait round *Stalk*; one or two Foot high; round at the lower, and *quadrangular* at the upper Part; adorn'd with *Leaves*, broad towards the *Stalk*, becoming narrower towards the *Point*; as it were *triangular*, pale-green, not unlike those of a Beet. Its *Flowers* are thick set, without *Foot Stalks* upon the upper Part of the *Stalk* and *Branches*, consisting of a green *Empalement*, surrounding greenish yellow *Summits*, soon succeeded by two small green *Leaves*, which containing one single, flat, round Seed, becomes a flat Seed Vessel. It is sown in the Gardens.

Virtues and Use s.

This is a fresh Instance of the great Harmony and *Agreement* betwixt the *Characters* and *Virtues* of a *Plant*; for tho' this Garden *Atriplex* be
fix'd

fix'd upon as a *Dispensatory Species*; yet all the *Atriplex* Kinds, which are very numerous, both *Garden*, *wild* and *maritime*, partake of the same *Virtues*; they are potent *Emollients* and *Laxatives*: Their chief Use is for boil'd Sallads in the *Kitchen*, and for *Glysters*; so that it is a *Pot*, rather than a medicinal *Herb*. I have thought fit, because of the *Singularity* of the *Plant*, not upon *Account* of its different *Virtues* to add

2. *Atriplex Maritima Bostoniensis*.

2. *Atriplex Maritima Bostoniensis Nobis*. *Atriplex Maritima*, *Halimus dicta erecta*, *semine Folliculis Membranaceis bivalvibus, in Latitudinem porrectis, & utrinque Recurvis, longo pediculo Insidentibus, clauso* Plukn. Phytogr. Brit. Tab. 36. Petiv. English Herbal. Tab. 7. No. 8. Raii Suppl. 123. Synopf. Stirp. Brit. 63. Sea purslane of Boston.

The *TRIB E*.

The first who seems to have discover'd this *Plant*, was *Dr. Pluknet*, about forty Years ago, growing plentifully near to *Skerbeck Church-Yard*, within a Mile of *Boston* in *Lincolnshire*. I discovered it about three Years ago, growing within a quarter of a Mile of *Boston*, about a Bow shot from a *Wind-Mill*, as you go from *South-End*, along the *Sea Bank*, towards *Skerbeck Church*. *Mr. Ray* says it is *forte minor Germanicus Park. minor*. *C. B. P. Halimus aurei arvi*. *C. B. Prodr.* 59. That it is not that of *Parkinson's* may be prov'd, because he knew nothing of the *Distinction* between the *Atriplices* and *Chenopodia*, and it might have been the other *Halimus*, as well as this. That it is none of those mention'd by *Baubinus* is plain; for he says *folia habet utrinque una Lacinia divisa*, whereas these are always *integra oblonga ovata foliis portulacæ simillima*. His has *Capsula quadruplicia*; whereas ours has *Capsula compressa Cordiformia*, which makes his a *Chenopodium*, and ours an *Atriplex*. *Mr. Ray* says, *Mr. Du Bois* observ'd it in *Maritimis Belgicis*; perhaps that of *Mr. Du Bois* is the same mention'd by *Boerhave*, different from ours; for the one is *floribus longo pediculo Insidentibus*, and the other *Cauliculo Arcte Adherentibus*, *Boer. Ind.* 2. 89. so that there is Reason to believe, this *Plant* is only peculiar to *Boston*, at least by what has yet been observ'd.

The Description.

It has an *annual, fibrous, hard Root, striated or angular, knotted, branched Stalks*, arising half a Foot, even to one or two Foot when luxurient, adorn'd with Ash coloured, oblong, oval, or blunt Leaves; the largest of which, are about one Inch long, and half an Inch broad, alternately or irregularly plac'd; from whose Bosom arise the small *Branches*, having two small Leaves at their Exit, and loaded with thick small *Flowers*, consisting of several dusky, yellow Summits, surrounded by four very small, thick Leaves for a *Calix*, both which, soon fall off, and then the flat *Pistillum* with its *Stylus* in the Middle appears, which soon becomes a compress'd Heart-like triangular Fruit, bended outwards like two Horns, with a Depression in the Middle; as it is said of *Bursa Pastoris, Triangulum Isosceles quasi referens*. N. B. These *Flowers* are thick set on the Top of the Stalk and Branches, without any Pedicle at first, but no sooner does the Fruit or Seed-Vessels appear, than it is stretch'd forth, upon Pedicles, one, two or three Lines long. It cannot be distinguish'd from the other *Halimus*, till the Flower and Fruit appear, which is about the Middle of *August*.

XXIII. *Chenopodium* sive *Blitum Sylvestre*.

1. *Atriplex fatida*, C. B. P. 119. Moris. Hist. 2. 605. Raii Hist. 198. *Chenopodium fatidum*, Tournef. Instit. 506. Hist. des Plantes 17. *Blitum fatidum Vulvaria dictum*, Synops. Stirp. 64. *Vulvaria* Tab. Icones 428. Stinking Orrach.

2. *Bonus Henricus*, J. B. 2. 23. 965. *Blitum perenne Spinachia facie*, Moris. Hist. 2. 599. *Blitum bonus Henricus dictum*, Raii Hist. 195. *Lapathum unctuosum folio Triangulo*, C. B. P. 115. *Chenopodium folio Triangulo*. Tournef. Instit. English Mercury.

3. *Botrys Ambrosioides vulg.* C. B. P. 138. Raii Hist. 196. Dod pempt. 34. *Atriplex odora sive suaveolens*. Moris. Hist. 2. 605. Hort. Lugd. Bat. 68. *Chenodopium Ambrosioides, folio sinuato*. Tournef. Instit. Boerh. Ind. 2. 90. Oak of Jerusalem.

The T R I B E.

Tournefort discover'd, and Boerhave has very much improv'd the Distinction betwixt the *Atriplices Blita* and *Chenopodia*. Tournefort has given the Name of *Chenopodium* to the whole Tribe, because *Atriplex Sylv. latif. Pes anserinus dicta* happens to be of the Number. The distinctive

Notes

Notes of these three *Genera*, according to these two *Authors*, are: *Atriplex* has a *pentaphyllous Calix*, which afterwards becomes a flat *Husk*, containing one Seed. *Boerhave* farther observes, that it has *Hermaprodite Flowers*, with five *Stamina* and a *Pistillum*, which becomes a round Seed: and Male Flowers, only compos'd of *Stamina* and two small corner'd or heart-like Leaves.

The Character of a *Chenopodium* is, that it has a *quadrifid* or *quinquifid* deep divided *Calix*, with eight or ten *Stamina*, and a forked, long, distended *Tube*; which upon the ripening inclosed in a *quadrifid* or *quinquifid* Star-like *Fruit*, becomes a small round Seed.

The *Blites* have a *trifid Calix*, (which afterwards becomes a Bladder Husk) three *Stamina*, with a forked *Tube*, which becomes a single oblong Seed. Such strict Examination of the *Flower* and *Fruit*, is the most probable Means of acquiring the true Knowledge of the *Genera* of *Plants*.

The Description.

1. *Stinking Orrach* (so call'd from its *fætid Smell*) is a low *Plant* about a Span high, very much *branched* with small round alternate *Leaves*, not unlike the Sea purslane, the lower most whitish, being sprinkled with a kind of Dust; the upper more pointed. The *Flowers* are *branch'd* on the Top of the *Stalk* like other *Orrachs* of the *Chenopodium* kind. It is an *annual Plant*, grows in fat Places, and the Ground where Dung-hills have been laid.

2. *English Mercury* has a *perennial, parenchymatous Root*, sending forth some *Fibres* from the lower Part; with several corner'd, and hollow, long foot *Stalks*; arising from the *Root*, and supporting *Triangular Leaves*; dark green above, sprinkled with a whitish Powder below, not unlike those of *Arum*. The *flowering Stem* arises in the middle, gross, round, marrowy, loaded on the Top with thick set small *Apetalous Flowers*, like the former. It grows plentifully in shady *Orchards*, round *Garden Walls*, Bottoms of *Dung-hills*, and other fat Places. It is also cultivated in most Gardens, where it loves a fat Soil and a shady Place.

3. *Oak of Jerusalem* is an *annual Plant*, arising about Half or One Foot high, from a small, somewhat *fibrous Root*; it sends forth a round stiff strait *Stalk*, much branched from the *Root* upwards; adorn'd with *Leaves*, notch'd and deep divided, like those of *groundsel* or *Jacobæa*, but much less; the Divisions, or rather *Sinus*, are not unlike those of an *Oak*, from whence its Name; reddish below, but afterwards greenish yellow: at the Top of the *Stalk*, and *Branches*, it is thick

beset with small *Flowers*, like the former. The whole Plant has a pleasant agreeable Smell : It is sown in Gardens.

Virtues and Uses.

1. These Plants are but of little or no Use in Physick. The *Stinking Orrach* is esteem'd a good *Hysterick*, because of its high *fætid* Smell, which most People compare to the *Impurities of a Prostitute*. *Tournefort* advises to make a Tincture of it with *Brandy*, which, he says, is a good *Anti-Hysterick*; others prescribe a *Tea* of the dry'd Leaves. I have seen a Syrup of the Juice kept as an *Anti-Hysterick* in the Shops; but if it is at all good for *Vapours*, it must be by its high Scent, when *Women* are in a *deliquium* or Fainting, as they use to do with burnt Feathers, which are put to the Nose in such Cases. I look upon it to be an *emollient*, with others of that Tribe; but not much in Use, because of its Smell.

2. *English Mercury* is so universally known here in *England*, for a boil'd Sallad, that it is cultivated every where in the Gardens, and is greedily sought after in the Spring, because then the Leaves are most tender and delicious. It may be an Ingredient in *emollient Cataplasms*, *Fomentations* and *Clysters*: But however it be recommended with us, the *Mercurialis Dioscoridis*, or *Cynocrambe* is prescribed as one of the *emollient Herbs* for *Clysters* in other Countries. In a Word, all the Beet, Blite, Orach, Spinage, and Mercury Kinds, partake of the same Virtues, and may be prescribed in the same Cases.

3. *Oak of Jerusalem* is scarce of any Use in Physick. The Ancients look'd upon it as a good *Pectoral*, an *Attenuater*, a *Provoker* of the *Menses* and *Secundine*, which I suppose is because of its *sweet Smell*. They use to dry the Leaves, and put them among Cloaths, to preserve them from the Moths, which I suppose is also on Account of the Smell.

Avellana, vide Corylus.

XXIV. *Avena.*

Avena alba, C. B. P. 23. Tournef. Instit. 514. J. B. 2. 18. 432. Moris. Hist. 3. 209. Raii Hist. 1253. Dod. pempt. 511. White Oats.

In treating of so useful a Grain as Oats, I shall observe the following Particulars.

1. In declaring of the Tribe, I shall explain several Terms of Art, peculiar to this Genus.

2. I shall

2. I shall give the Description, with an Account of the different *Species*.

3. Add the *Virtues* and *Uses*.

4. Give the Manner of preparing *Oatmeal*.

5. Shew the different Methods of preparing *Oatmeal* for Food.

6. The Culture of manur'd Ground.

7. The Improvement of Barren Ground.

8. Other Improvements to be made by sowing of Oats.

The T R I B E.

Avena is a culmiferous annual grass-leav'd Plant, with spars'd Panicles, and an esculent, or eatable Grain, sown in the Fields for Food to Man, and Fodder for Beasts.

Before I proceed, it is fit I should explain the following Terms of Art, such as *Coma*, *Cotyledon*, *Culmen*, or *Culmus*, *Fuba*, *Panicula*, *Spica*.

Coma signifies the branching out of several small Pedicles, from the Top of a Stalk; which being spread forth, resemble so many Locks of Hair, such as the small Pedicles on which the several Grains of Oats depend.

Cotyledon; As in the Uterus of Cows, and some other Animals, there are several carnosus Protuberances, not unlike to so many large Figs, dispersed up and down the Chorion, in which the Fætus is included; each of which furnish a Blood-Vessel to the Navel String (by which the Fætus is nourished) call'd *Cotyledon*, & *Cotyledones* in Plants; signifies the first stretching forth of the Seed-Leaf from the Point of the Radicle, by which it is nourish'd. This Expansion is either double or single, *i. e.* There are either one or two Seed-Leaves stretch'd forth; if but one, it is called *Monocotyledon*; if two, it is said to be *Dicotyledon*. The chief of the *Monocotyledones* are the *Bulbosæ*, the *Bulbosis affines*, the *Frumenta* and *Gramina*; all which, for the most Part, are call'd *Graminifolia*, from the Resemblance of their Leaf to that of Grass.

The *Frumenta* Corn, and *Gramina* Grass-Kind, are also call'd *Plantæ Culmiferæ*, which has a two-fold Derivation.

1. From the Top or Roof of a thatch'd House, which is call'd *Culmus*, or *Culmen*, by which they are said to be *Culmiferæ quasi Culmeniferæ*, when the apetalous Flowers are placed upon the Top of the Stalk of the Corn and Grass Kind.

2. From *Calamus*, a Reed or Quill, then they are *Culmiferæ quasi Calamiferæ*, because the Stalks are hollow and jointed; the larger of these are the *Cereales*, or *Frumentacæ grano esculento*; the less, are the *Gramina semine non esculento*.

The largest of the Grass-kind are the *Arundines*, and the *Gramina Arundinacea*; the *Reed* and *Reed-Grass*, whose Top is call'd the *Juba*, from thence they are called *Plantæ Jubatae*, which only differ from

Panicula, because the one is *branched*, and the other not. It is a Collection of the *Flowers* and *Seeds* of the *Corn* and *Grass-kind*, for the most Part loosely dispos'd, hanging down from the small *Pedicles*, situated on the Top of the *Stalk*

Spica, on the contrary, is when the *Flowers* are compactly united and situated on the Top of the *Stalk* and *Branches*, in Form of a *Cylinder*, or more *Conical*. It chiefly relates to the *Corn* and *Grass-kind*, though it is to be observ'd among other *Genera*, as *Lavendula*, &c. among the *Lip-flowers*: *Plantago*, *Persicaria*, *Bistorta*, &c. among the other *apetalous Flowers*.

The Description.

Avena is an *annual Plant*, with a small hard fibrous *Root*, sending forth one or more straight, hollow, jointed *Stalks*; with one thin, long, tapering, pointed, dark-green *Leaf* from each Joint. The *flowering Stem* arises from the second or third Joint, bearing two or three long, small *Pedicles*, at certain Intervals, supporting so many *Flowers*, consisting of two oblong, cavous green *Leaves*, instead of an *Empalement* called the *Gluma*, or *Chaff*; surrounding several *Stamina* or *Chives*, with the *Pointal* in the middle, which afterwards becomes an oblong, blunt, *farinaceous Seed*, cover'd with a *thick Coat* or *Husk*, endow'd with an *Arista* or *Aun*, which was formerly the *Stylus* on the Top of the *Pisillum*, and cover'd with the *Chaff*, which was the *Calix*, and containing a small *Seed* in its Bosom. The *Seeds* are dispos'd in *Panicles*, or loose *Spikes*; which, as *Dioscorides* observes, hang downwards, like the Feet of a *Locust*.

Different Species.

Oats are cultivated in most Parts of *Europe*; in the hotter, but more especially colder Regions: In most Parts of *Germany*, *Great Britain*, especially *Scotland*, *Borders of England*; *Cornwal*, *Wales*, and *Ireland*. It agrees with any *Soil* and *Climate*, if it is not too dry, nor too moist, and thrives as well in the more barren, as in the more fertile Ground.

There

There are several Kinds of it.

1. *White Infield Oats* (which is chiefly sown in *Scotland*) has an oblong, turbinated, or bilg'd, blunt, farinaceous Seed, with a short Aun, and large Chaff.

2. *Black Infield Oats* is of the same Shape and Bigness, with a dark brown Husk, for which it is call'd *Corby Oats*, resembling a *Raven*, which is there call'd a *Corby*. It is chiefly sown in some Parts of *Fyfe* and *Kinross-shire*, a small adjacent County.

3. *Barley*, or *early Oats*, because it is sown late, and ripens early with the *Barley*. This is a short turbinated Grain, usually sown in moist Places, because it ripens soon, tho' the Season should be otherwise cold and late.

4. *White and Black Outfield Oats*. These are long, small, hungry Grains, with a thick Husk, but small Kernel, and a long Aun, chiefly used for *Horse Corn*: Its *Straw* is so sweet and tender, that it is not much worse than Hay for Horses. A double Quantity of this Grain is sold at the Price of a single Quantity of the *Infield Oats*.

This is the fittest Grain for manuring or cultivating of barren Ground, as shall be shewn hereafter.

Mr. Ray observes, that *Gerard*, *Parkinson*, and *Joannes Baubinus*, make no Distinction betwixt the *Black* and *White Oats*: But he adds, that the *Black Oats* are chiefly sown in *England*. This seems to be the same with the *Outfield Black Oats*, call'd *Sciachs* in some Places of *Scotland*; for the *Horse Corn* in *England* is no wise so farinaceous as the *Infield Oats* in *Scotland*: It has a longer Grain and Aun; neither are there any other required, since *Oats* are only given to Horses; save in the North of *England*, *Cornwal*, and *Wales*; and I am inform'd by Mr. Ray and others, that in *Cornwal* they have a kind of *Oats* call'd

5. *Naked Oats*, where it is almost sold at the same Rate as *Wheat*, by the Name of *Pilch Corn*. I am also told, it is of late frequently sown in *Durham*. I suspect it may labour under the same Inconveniency which I observed in the *early Oats*, that it may be soon shaken in a windy Season; but it has the good Advantage beside, saving the Pains of husking or shelling of it, (as 'tis usually call'd) in a Water Mill. One Measure of this *Naked Oats* may afford the same Quantity of Oatmeal as three of the other Kinds; for the usual Calculation is, that three Bolls of unshell'd, or unhusk'd *Oats*, only yield one Boll of what is shell'd or husk'd, ready to be ground into Oatmeal. It is of this shell'd *Oats* that they make the *Grotts*, whose Use shall be shewn hereafter.

N. B. What they call a Boll in Scotland, contains four Bushels, in some Places call'd a Seam in England.

Mr. Ray takes Notice, that *inter segetes nimis frequens est*, and that once being got into such Ground, it becomes wild, sows itself without Culture, and can scarce be rooted out or separated from any other Grain, the Reason of which (if he means *Wheat* by *segetes*) that Ground is so till'd, and the Seed for the most Part being sown in September, October, or at furthest November; the shaken Oat Seed, which ripens sooner than *Wheat*, is by this Means covered along with it; and being thus cherished during the Winter, it ripens more early than its ordinary Season; so that being again timely ripe, it mixes and shakes before any other Grain, such as Pease, Rye, &c. and thus continues to propagate itself, without Manure or Culture: But if it has been a windy Season, and no Care has been taken to Till the Ground over the shaken Seed, either the Beasts eat up the tender Plants, which immediately spring forth, having no Root in the Ground; the Birds pick up the Seeds, or it dies with the Winter Frosts: So that if *Barley* is sown in the same Ground next Year, Oats are seldom observed to rise up with it in any Quantity.

Vertues and Uses.

Oats are of a temperate Nature, drying, moderately digesting, and somewhat Astringent: It is of frequent Use both for Food and Physick. The chief of its medicinal Uses is the *Diuretick*, or nutritive Part. Water-gruel made of Oatmeal, coarsly grinded and well boil'd among Water, of a drinking thin Consistence, is of great Use in Fevers, moderately salted, sweeten'd with Sugar, if requir'd, or aromatized with a little White Wine, Powder of Cinnamon, Mace, &c.

This I have successfully often used in *malignant* and *putrid Fevers*, when the Patient has been delirious many Days, and taken nothing but this thin *Water-gruel* for the ordinary Drink, which both diluted their Blood and nourished their Body: If inclin'd to be constipated, take the coarsest ground Oatmeal call'd *Grots*, mix a good Quantity of *Currants*, boil all very well, strain out the thin Liquor, and let that be for the ordinary Drink; eat the thick Gruel and *Currants*, with Sugar and *White Wine*, or without, for an ordinary Meal. *Water-gruel* is in *England* differently prepared for a Breakfast, or in a Morning, both among the higher and lower Sort of People, Noble and Ignoble, Gentleman and Farmer; so that there is scarce any who know not how to make use of it. Mr. Ray says, it is chiefly sown for Provender for Horses; that they fatten Geese, and feed Hens with it; but withal he

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adds, that the meaner Sort of People, who live only on Oatmeal differently prepared, are the most healthful and long liv'd People of any. He also observes, that such enjoy a better State of Health than those who live upon the most delicate and fine Dishes the Art of Cookery can invent. And indeed those who consider the Strength, the Robustness, the most laborious and toilsome Work, such as live only upon Oatmeal undergo, it may be look'd upon as no less Nutritive than any of the esculent Grains. *Pease* and *Beans*, which some of those working People frequently make use of, being ground into *Meal*, and baked, are a much stronger Food, but so heavy and clogging, that unless mix'd with other Grains, few can continue long in the use of them. *Wheat* is the most delicious, and can be best refin'd of any of these Grains. *Barley* and *Rye* are somewhat rougher and coarser, when bak'd alone; but *Oats* are a Grain, which if any are accustomed to, they can live as long in Health, perform as laborious a Task without wearying on the Use of it, as any who have the other Grains chiefly for their Food.

Difference of Oatmeal.

Oatmeal is diversely prepared, according to the Custom of the several Countries. When the *Oats* are thresh'd out, they dry them very well on Kilns, made on purpose: They Shell or Hulk them in a Mill, which chiefly goes by Water; they winnow or fan off the Husk, call'd in some Places the Shellings. Sometimes they pass them a second Time through the Mill, so that the whole Husks are removed: After which they grind it small.

The whitest and fairest is esteem'd the best, not being ground so very small, and being the freest from these Husks; tho' some, especially they who grind it for publick Markets, make it so small, that the Dust and remaining Husks are all mixt together. This is not esteem'd so good, nor will it afford such a Price. That ground from white *Oats* is preferr'd, but there is some Allowance given for the Colour of the Meal from the *Corby Oats*, which tho' not so white in Colour, yet it is as substantial a Grain. They sometimes also grind the *Outfield*, or *Sciob Scotch Oats*, but that is the coarsest of all, and is usually call'd *grey Meal*: The most frequent Use of this Grain is for Horse Corn, as is observed.

Different

Different Preparations of Oatmeal for Food.

The Food made of Oatmeal is also diversly prepared; those called *Grots*, which is the *Oats* more carefully shell'd or husk'd, are made use of for *Water-gruel*, and it is said they frequently mix the Leaves of *Colworts*, commonly call'd *Kail*, either cut very small, or the tenderest of the Leaves are put in whole; with this they often boil *Salt Beef*, *Mutton*, &c. which makes very good nourishing Broth and Food: After they have search'd or sifted the Meal from the remaining Husks, they take them with what of the farinaceous Part remains, and put all together in a large Vessel, and sometimes a big Stone dug hollow, which will hold several Gallons; they infuse it in hot boiling Water, cover up the Vessel for two or three Days, and set it by a Fire, that it may become acid or sower. They strain out every Evening as much of this Liquor from the Husks or Seeds (as they call them) as will serve the Family for a Supper. They let this Liquor stand for some-time, and pour off the more watry Part, that the remaining Part, (which is very white) may be boil'd up to the Consistence of a Poultrice or Mucilage: This is call'd *Llummery* in *Wales*, *Flummery* in *England*, and *Sowens* in *Scotland*. They make as much of this as will serve for five, six, or seven Days, because it never eats well, till sower, which does not happen untill the third or fourth Day: They sometimes boil an Egg with this, or eat it with Milk, Ale, Claret Wine, and Sugar, &c.

The usual Breakfast where Oatmeal is so much in Use, is what is call'd in *England*, *Hasly-Pudding*, and *Pottage* in *Scotland* made of boiling Water and Oatmeal stirr'd well amongst it, until it be of a convenient Thickness; this they also eat with Butter-Milk, Ale, &c. They sometimes take the Oatmeal Broth with the Colworts, and sprinkle the Oatmeal among it to convenient Thickness, and this is call'd *Brewis*; or they dry the Oatmeal very well in a Frying-Pan, and mix very well with it the float or fat which swims on the Top of the Broth of Salt-Beef; this is call'd *Beef-Brewis*: They also toast the Oatcake very well, and putting it in a Dish, they pour upon it this float or fat of Beef, which the Bread thus dry'd, being well-soak'd, they call *Beef-Soup*.

The Manner of making Bread or baking of Oatmeal is also various, and under different Denominations, as Loaves, Baps, Cakes, Bannocks.

The Oatmeal Loaves are made into a Paste, with a proportional Quantity of Water and Barm, or Yest, and bak'd in the Oven, as
Wheat

Wheat Loaves; and if the Meal is made of fair white Oats, well sifted, and duly fermented with the Barm, though Inferior to Wheat Flower, yet it eats very Pleasant; it's usually with a thick hard friable Crust, and an agreeable Crumb; but it requires a close shut Oven if made so large as four-penny or six-penny Loaves.

These called Baps, are the Oatmeal likewise fermented with Barm; they are baked out thin, of an Oval Figure, soon swell in an open Oven along with Wheat Bread; they eat very friable and Pleasant, being chiefly all Crust, which is brittle, and easily dissolves in the Mouth. They usually Bake *Oat Cakes* after the same Manner, spreading the Paste into a large Circle, and cutting it into four equal Squares.

The other kind of Cakes are made into a Paste with Water alone, so thick and dry, that it's with much ado they can Knead it with the Knuckles of their Fingers; and after they have press'd it out to a tolerable large Circle, they cut it into four equal Squares, and lay it upon a Back made of moulted Iron, cast with several Figures on one Side, and smooth on the other. This is usually plac'd at the Back of the Kitchen Chimney, to reverberate the Heat at Roasting or Boiling; and when they go to bake, they turn it down, lay it over the Fire, and bake these Cakes when 'tis thoroughly heated, by laying of them on its smooth Side. They eat not so friable as those bak'd with Barm, but are of an agreeable Taste, and Pleasant to chew; they will keep a long Time without turning stale or musty, or becoming too dry, even in the Summer. These are bak'd thicker or thinner, according to the Mode of the several Counties. In *Cumberland* and *Westmoreland*, they are bak'd very thin; thicker at *Edinburgh*, where they are very frequent in Publick Houses; and thicker still the further you go *North*; but moderately thin at *Aberdeen*.

There is a kind of Cakes bak'd in the *Stormond*, *Perthshire*, and about the middle Parts of *Scotland*, called Sour Cakes. They make a Paste, or Dough, of Oatmeal and boiling hot Water, they suffer this Dough to become Sour, for two or three Days, or longer, according to the Season. They have a large round Plate of Iron, called a Girdle, beat thin out, to about two or three, or near four Foot Diameter; they have also thin Boards, about three or four Foot square, called Bake Breads. They take about a quarter of a Pound, or more, of this Dough, made first into a round Lump, or Ball; this they beat out, by Degrees, with the Palms of their Hands, as they stretch out Linnen, when they Wash Cloaths, shuffling, shifting of it, and sprinkling it afresh with Oatmeal, to keep it from adhering to the Board, until 'tis as thin as coarse brown Paper; they put it upon this Girdle on the Fire, to give it a tollerable Heat; after which they fold it four

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fold, and keep it for Use. 'Tis made so very thin, that one may bite through sixteen or twenty fold of it. It will keep without spoiling, turning mouldy or stale, two or three Months. They toast it, and put it in a Cup of Ale at a Mornings Draught (as some do Sage) to which it gives a pleasant Taste; they afterwards add a little Sugar, which makes it eat very agreeable; they fry it with Butter, or eat it in Soup, with Float, or Fat of Beef; as we said of the other Oat Cakes. I doubt not, but if the same Method were us'd with the Dough of Wheatmeal, it would eat very agreeably, since it is more malleable (as it were) can be more easily stretch'd forth, and is as capable of a Sourness, or Leavening, as the other.

These Iron Plates, called Girdles, chiefly made at *Cultross* in *Perthshire*, are likewise made use of throughout the most Part of *Scotland*, for baking the Ordinary Oat and Barley Bread, for common Use, called *Bannocks*, which are of several Kinds; the soft *Bannocks* are made into a moist Paste with Water, then stretch'd forth into thin Circles, about the bigness of an ordinary Pewter Plate, and laid on this *Girdle* hot upon the Fire, they toast the one Side sufficiently, then turn the other Side and toast it; the *Girdle* will hold five, six, or seven of them at once. This method is chiefly taken in most Places where the Farmers have many Servants, so that it would not be easy to furnish them all with Bread, were there not such an expeditious Method taken as this. The hard *Bannocks* are bak'd hard, as we spoke, in Cakes made pretty large and round, about one Foot Diameter, thicker than the Cakes; they will keep for several Days. Sometimes they use to bake them still thicker, putting them on a *Gridiron*, called usually a *Brander*, and toasting each Side successively, for which they are called *Brander Bannocks*. They sometimes add Barm to them, or Butter, the one raises them to a good thickness, making them soft and spongy; the other makes them eat very friable. They add also Barm to the soft *Bannocks*, which is a great Advantage to them in the eating.

Culture of Oats.

For the better Understanding of the Manner of manuring and cultivating of Oats, by which it may not only be very much improv'd, as to itself, but be of great Use towards the Improvement of several or most Grains and Trees; it is fit I give an Account of their Management of it in *Scotland*, where it is made use of to the best Advantage.

Though there be a great deal of fertile Lands in *Scotland*, especially on the South Side of the River called the *Forth*: Those, called *Carses*,
as

as that of *Gourey*, *Cambuskenneth* and *Stirling*; also those called *Straiths* in the *North*, and *Dales* in the *South* and *West* Parts, which are pleasant Valleys between long *Ridges* of *Hills*, with agreeable *Chrystal Rivers*, abounding with *Fishes* in the *Middle*, and beset with fertile *Lands* on each *Side*, which in fruitful *Years* produce vast *Quantities* of *Corn*; yet they are not sufficient for the *Maintenance* of so prolifick a *People*; and therefore they are obliged to be at a great deal of *Pains*, and use great *Industry* in improving of these *Arable Lands*, while the *Sides* of *Hills* serve for *Pasture* to their *Sheep* and *Beasts*. Therefore all these *Valleys* are continually employ'd with *Tillage* and *Sowing*, and they are always endeavouring to make what *Improvements* they can, in the bringing in of the *Higher Grounds* and *Hill Sides*.

The *Method* usually taken is thus: They do not divide their *Lands*, as they do in the more fertile *Places* of *England*, into *Acres* and *Pearches*; but they consider what it will take to be plow'd by eight *Oxen*, and two, or four *Horses*; and this they call a *Room* of *Land*, he that *Farms* it is called the *Husbandman*, and according to his *Stock*, to furnish himself with *Beasts*, *Sheep*, and *Servants* to take *Care* of them, and *Corn* to sow the *Ground*, he farms, one, two, three or four of these *Rooms*.

The *Husbandmen*, or *Farmers*, have *Houses* built for them by their *Landlord*, near to each other, which little *Village* is called the *Husband Town*; and because it requires many *Hands* and *Mouths* to manage so large a spot of *Ground*, the *Husbandmen* have the *Priviledge* of letting out, to *Sub-tenants*, such a *Spot* of *Ground* as is thought sufficient *Maintenance* to their *Servants*, who help them in labouring and manuring of the *Ground*. They build *Cottages*, or small *Houses*, at a *Distance* from the *Husband Town*, which they call *Cot Towns*, to each of which is parcelled out one, two, three, or four *Acres*, as is agreed upon, and given the *Seed* to sow it, the *Product* of which becomes their *Maintenance*. Thus it is that they render these *Lands* so very fertile as they are; sometimes they overdo it, so that though they be so industrious as to manure it from *Year* to *Year*, according to their *Method*; would they sometimes lay out their *Infield Lands* to *Grass*, and not be plowing of it continually up, but rather rest it, as they call it, for a *Year*, two or three, and then plow it up again, it would turn to a better *Account*, with less *Labour*, than usually it does; which some of the more considerate have experienc'd, to a good *Advantage*.

What is called *Infield Land*, lies nearest to the *Husband Town*, for the *Conveniency* of laying out the *Manure Muck*, or *Dung*, for which they use several *Methods*.

All the Dung, and Litter from the Straw, Hay, and other Proven-der, furnished to their Horses and labouring Oxen, is gathered together into one Dunghill, or Midden, which they drive out in the Season and spread it on the Land, the *Wheat*, or *Barley*, for a Foundation, or Bottom to this Midden; after the Time of plowing, they bring from the adjacent Heath, or Common, several Loads of the Surface, dug into thick square Pieces, called Fail, and lay the Dung gathered throughout the Year, on the Top of it. If they are furnished with so much Grass, as will maintain their *Plow Oxen*, and Cows at home, they build a Fold, with a Wall, of such barren Earth, of five or six Foot high, they lay the Bottom of it with thin digg'd Turf, which they call Divots, and bringing home their Cattle into this Fold every Night, the Earth and their Dung rotting, and being mix'd together, makes excellent Manure, or Muck (as they call it.) Another Method is to cast, or dig up these Divots, and building of them up into a large Heap, set Fire to it, and burn it to Ashes; this they strew along on the Land, or mix it with other Dung; this done, they proceed to labour the Infield Land as follows.

Those Lands which will not produce Wheat, are only sown with Barley, Oats, and Pease, alternately, or every other Year: No sooner are the Oats taken from the Ground, than they *Rib* the Land (as they call it) that is, they make thin Furrows, according to the Depth of the Furrow, they turn them up at a proportional Distance, and accordingly make the digg'd up Furrow cover that which was not *Till'd*, or *Plow'd* up; thus it lies all Winter. Towards the Spring they *Till*, or *Plow*, that which was last Year *Barley*, with a close *Furrow*, that is, each *Furrow* lies as near to the other as possible. In the beginning of *March* they sow the Infield Oats; this is no sooner done than they *Stir* (as they call it) the Ground for the Barley; that is, they give it a superficial close *Furrow*, turning up that again which was *Rib'd* in the *Autumn*; upon which they drive out the Muck, lay it in Heaps at certain Distances, and spread it forth; they plow it a third Time, and then sow the Seed; but in most Places they give it no third Furrow, but drive the Muck on the *Rib'd Land*, stir it, or plow it a second Time, and immediately sow and harrow the Ground.

Improvement of Barren Ground.

The second and third Part of this *Room of Land* are the *Outfield* and *Common*. The *Outfield Land* is that, which being at a good Distance from the *Husband*, or *Farm Town*, cannot be supply'd with any of the
Manure

Manure from Home. Therefore they take several other Methods to render it more Fertile.

They *sow* it with the *Sciocs* above mentioned, for three successive Years, after which they rest it, and let it lie *Lee* for other three Years; the first of which, they bring the whole Sheep in Town to feed on it, as on a Common. Then every one fall a *Taithing* (as they call it) of his own proportional Share, i. e. so much *Outfield Land* is allowed to so much of *Infield*. Suppose a Spot of *Outfield Land*, lying on the Side of a rising Ground, or Hill, of such an Ascent as a Plow can manage, consisting of several Ridges about fifteen Foot broad, and a proportional Length, provide twelve *Flakes*, or what they call *Trea's* in *Holland* in *Lincolnshire*, with which they surround the Stacks of Hay, or like the *Styles* by which they enter and pass out from the Pastures, being either made of two upright *Poles*, of about four or five Foot high, to which are fastned three, four, or more, *Horizontal Poles*, five Foot long, three of these being placed at each End, across the Ridge, and three along each Side, or Furrow, betwixt the Ridges, and the other three across the other Part of the Ridge; so that there being three and three opposite to each other, they make up a *Quadrangulum æquilaterum*, a moveable Fold of fifteen Foot square. They drive in fifty or sixty Sheep into this Fold at Night, and turn them out in the Morning, when the whole Ground will be wholly laid, or covered over with their Dung. These *Flakes*, or *Trea's*, are each of them supported and fastned by a *Pole*, forked at the one end, to which the *Flake* leans, and fix'd into the Ground by a Pin at the other, to keep it immoveable. About four in the Afternoon, the *Shepherd* removes his Fold to the next adjacent Spot; and thus he continues all the Summer, until the whole spot of Ground is *taith'd*. I do not determine the particular Dimentions of these moveable *Folds*, for some will be no larger than an ordinary *Pond Fold*, and others much larger, according to the Number of the Sheep to be kept in it.

That same *Autumn*, or perhaps next Spring, they fallow the *taith'd* Ground, by turning up thin Furrows with a Plow, and laying the Furrow turn'd up, upon the Space betwixt the two Furrows; and thus they suffer it to rest another, after which, they till and sow it the third Season. The next Method of manuring *Outfield Land* is by fix'd Folds, thus, they mark out a large Field, and run so many Furrows with a Plow as they design to build *Folds*, dividing the Ground into oblong, or equilateral Squares, as they think proper; they dig up the Earth into several thick square Pieces, called *Fail*, into so many Rows, three or four Foot on each Side of these *Furrows*, and build a *Wall* therewith, about four or five Foot high; these Folds have a Communication

with each other, and into them they drive Oxen, Cows, Sheep, which (feeding on the neighbouring Lee Grounds) are brought hither about an Hour in the Heat of the Day; they are also turn'd into these Folds all Night, and let out in the Morning; thus they do from Fold to Fold, until all the Ground be dung'd, or *taith'd*. They usually let them remain thus for two or three Years, after which, they take down the Walls, lay the Fail into that same Order they were taken up, and levelling all by Tillage, they have an excellent Crop the third or fourth Year: They do not *Fallow* it, as in the former Case, but plow and sow it immediately after taking down the Folds. And here it is observable, that notwithstanding the volatile Salt in the Dung of these Animals, the Nitro aerious Particles, which, passing through, is received into the Pores of the spongy Earth, thus dry'd and expos'd in these Walls, contributes much more towards the Fertility of the first and second year's Crop, as is very evident, by the Corn being much more Luxuriant in those Places where the Mud Walls have been built, than any where else; insomuch, that in a cold wet Summer, the Stalks are ready to fall down and rot before the Grain is Ripe; so that in such Places of the Ridge, both across and lengthways, as the Walls have been, the Corn is to be sown very thin; and if such Precautions are observed, several Stalks will arise from one Root, and the Crop will be more plentiful than otherways.

Agreable to this is the Method us'd by others, of digging and building of *Earthen Walls*, at about six or eight Foot distance, lengthways, throughout the Ridge; the whole Surface of the Earth, about one Foot deep, is employ'd in building of these Walls; and after they have thus remain'd two or three Years, the Fails are plac'd in their former Order, the Ground levell'd, *till'd*, or *plow'd* and *sown*, and produce a very plentiful Crop. This way is preferable to the *dunging*, or *fatning* of the Ground by *Cattle*; but much more laborious; for they build at least three or four of these Walls for one of the other. It's upon this Account, that however the Houses of these *Husbandmen* is built with Stone and Mortar, or Lime; they chuse to build, or at least to cover their *Out* or *Office Houses* with Earth, digg'd into very thin Turf, carefully dry'd, which they call *Divots*, this they either lay alone, or upon *Thatch*, made of Wheat and Rye Straw, which, upon Occasion, they take down and lay upon the Ground for Manure, after a few Years.

The third Method is by *Burning*, which is usually practis'd in cold *Heathy Black Ground*; they dig thin Turf, dry it moderately, lay it up in several small Heaps, or sometimes into one common large one, burn and reduce it to *Ashes*, which they spread over the Surface of all the Ground,

Ground, whence the burnt Turf was digg'd. This blackish Earth, tho' of itself not very Fertile, being *Sulphurous*, and mix'd with the *Roots* of the *Heath*; when Burnt, its *Ashes* partaking of a good Quantity of fix'd Salt, improves the Ground very much; especially if the Ground abounds with the *Female Fern*, called usually *Brakes*; or if, being brought from the neighbouring Woods, and shady Places where it much abounds. They are also very fit for fertilizing of Ground, and otherwise useful for *whiting*, or *bleaching* of *Linnen*; it's endow'd with a very penetrating Salt, with which they make a *Lee*, or *Lixive*; they let the Cloth steep, and sometimes boil it among the *Lee*. These *Ashes* are much esteem'd in *Perthshire*, where they make the greatest Quantity of the white *Linnen Cloth* for the Market.

After the Ground has been thus *strew'd*, or *cover'd* over with these *Ashes*, they fallow it for one Season, till and sow it the next, and it will continue to yield a tollerable good Crop of Outfield Oats for three successive Years; and if they shall *taith*, or build it into Folds for three Years following, in Time, it may become tollerably well manur'd Ground. In *Fife*, and *Lothian*, where they have plenty of *Coal Pits*, and *Lime Quarries*, they burn abundance of *Lime* upon these cold Grounds, lay it in Heaps and spread it forth, then *fallow* and *till* it. This is a good Method to render these cold moorish Grounds Fertile. I could also mention the laying on of *Marle*, of which there is a white and blue Kind; and the spreading forth of the *Dross*, which remains in the Bottoms of *Pits*, in these Places, where their *Fewel* chiefly consists of *Pets*, which are small square Portions of a black fat *Sulphureous* rotten Earth, digg'd out of *Pits*, four or five Foot deep, of a proportional Bigness; the small Earth is taken out, and laid either in the *Dunghills* or *Middens*, or immediately carry'd to the adjacent Land, which is of a more sandy and clay Soil. But of this, with what may remain to be said on the Improvement of Lands more, when I treat of *Hordeum Barley*, such as that of bringing or sowing the Ground with Sea Salt, and of Sea Ware, &c.

The last Method I shall mention, is of Watering. This usually happens on rising Grounds, and Hill Sides, where pure fresh *Chrystal Streams* of *Water* gush out from *South* aspect; one, two, or more of these Fountains, form so many *Streams*, which, running down the Hill, are carefully damm'd up, and gathered together in several Places; whence they draw Furrows, running obliquely to and fro, and sometimes cross ways, frequently like so many *Lozenges* of *Glass*, or *Rhombs*; they lay the Earth on the lower Side of the Furrow, through which the *Water* gradually sinks, and is dispers'd over all the Surface of the *Ridges*, below these *Streams*; and thus they continue to convey

vey these small Currents from Place to Place, until all the Piece of Land, to be thus improv'd, is sufficiently water'd. This Method is less laborious, and more beneficial than any of the rest; but it's only fit for Declivities, and not for Levels, whether Nitrous Salts are brought from the Bosom of the Earth, or that this Moisture dilutes, and disengages the Salts from the hard stiff Texture of this rough Earth, and thereby disposes it more for Vegetation, or perhaps both; the Ground, by this Means, is rendred much more Fertile, than by any other Method. Care is taken, that this Watering do not exceed in Proportion; for then, instead of a moderate Moistning, the too great rushing of the Waters may loose the Roots of the Grass, carry off the fertile Surface, and only leave a barren Sand. This is usually done the second and third Year after the Land is suffered to be *Lee*; for the first Year the Land is too loose to suffer such an Experiment; therefore they order it so as the Current may be diverted, and let down the several hollow Furrows betwixt the Ridges, without being dispers'd over all the Ridges, as they find convenient.

It's a common Proverb in *Scotland*,

*Every Land has its Taith,
Every Country has its Laugh.*

The Meaning is, every Place has its own Method of manuring, improving, and cultivating of the Ground, according to its Climate, Soil, Fertility or Barrenness; and every Country has its peculiar emphatical Phrases, and proverbial Speeches; as the same Methods are not practis'd in all Places, it's probable, what I have here propos'd, as done in one Place, may come to be practis'd to the same good Advantage in another.

Some other Improvements may be made in Barren Grounds, by sowing of Oats.

As I began the first Decad of the Letter A in the Alphabet, with *Abies*, the Firr Tree, in which I gave some Directions for Improving of Barren Grounds, by the Planting of it; so I conclude the same Letter with *Avena*, in this third Decad, by which I shall shew, how fit the sowing of Oats may be for such a Design.

I shall begin with the Manner of enclosing the Ground. The common Method is by a Ditch, three or four Foot broad, dug sloaping on each Side, about two or three Foot deep, and narrower at the Bottom than Top: But this has the Inconveniency, that it will
neither

neither keep out Sheep nor Hares, which ruin and destroy all the young Planting in the Winter, and the Ground falling down, makes it require continual Reparation. The better Way is to make the Ditch four or five Foot broad, place large Pebles, or white Stones, which are frequent in those moorish Grounds, to face the Ditch on the Inside, and Fail to face it on the Outside, as they do Earthen Ramparts; and at about two Foot distance from the Ditch, towards the Enclosure, build an Earthen Wall, about two Foot thick, and four Foot high, covering it well with these Fails, whose green Side is uppermost. This will last several Years without Reparation; and if the Sheep, or Hares, still leap it, fasten Branches of Haw-Thorn Briers, &c. upon the Top of the Wall, which will hinder them from getting in. In Places where these White Stones, or large Pebles, are very numerous, a Stone Wall of a convenient Height may be built of them; but it must be covered with Earth about one Foot thick; for if the Rain gets in, being Round, and of a smooth Surface, they readily tumble down in the Winter; and Stones from a Quarry are Preferable, if there is any such at Hand, because they are flat, and will not so readily fall down; though there be neither Mortar nor Lime made use of, they should still be covered with Earth. I have seen, especially towards Northampton, the *Sedum minus vermiculæ*, the lesser Houseleek, or larger Stone Crop, planted over all the Top of the Earthen Walls, which are of great Use, to keep the Earth, when dry'd, from mouldring down. The Walls built of Stone, with Mortar, or Lime, or of Brick, will last for Ages; but that, perhaps, may be thought too chargeable for Field Enclosures.

A very good Method for these Enclosures is, dig a double Ditch, four Foot broad, on the Outside, and three Foot deep, and about three Foot broad on the Inside; throw up the Earth on the Space betwixt them, which may be six Foot broad, and four Foot high above the Ditch. Plant *Ashes*, *Birch*, or *Fir*, at convenient Distances, or sow the Seeds in Rows, one Foot broad; in the Middle sow the Seeds of Furzes, or Whins, on each Side, the better Sort is the Upright, called *Irish Whin*; this will arise in three Years, streight, three or four Foot high, and then it will be fit to cut down; it's excellent for Fuel, to dry Malt, brew Ale, and bake Bread in an Oven, is of constant Use where Firing is dear and scarce, neither will it ever fail, or require Reparation, for both Sides of the Bank will acquire a grassy Surface, as Rampart-Walls; and the Whins, continually growing a Top, will fasten the Surface, and no sooner are they cut down than they rise afresh.

Thus much for the Method of Fencing, or Enclosing. The Ground thus taken in, may be different; you are to burn the Surface of the enclosed Ground, as above, and fallow it the same Year: Next Spring it may be till'd up, and sown with these Scioch Oats, very thin and if in a good Season, it will yield so plentiful a Crop as may near defray the Charges of Enclosing. Rib up the Ground immediately after the Corn is removed, and this will rot the Straw and Stubble all the Winter. Till it for sowing in the Spring, with a good deep Furrow; take two Pound of the Seeds of the several Trees you design should grow in this Enclosure, viz either all *Firr*, all *Birch*, *Oak*, viz *Acorns*, *Ash*, or *Alder*, if the Ground is Moist; or you may take several of them together, and mix them with as many Oats as will sow the Ground. I suppose, one Pound of the Seeds may go to an Acre, which being mix'd with the ordinary Proportion of the Oats for an Acre, will be thereby spread the farther, and have the greater Space to grow; Harrow the Ground thus sown very well, and if it is a light sandy Ground, smooth it all over, as they use with the Top of a Footstall to do, when they sow Flax. Thus the young Trees, and Oats, will grow up; the Oats will keep the young Plants of Trees warm, cherish, and suffer no Weeds to arise and choak them, You are not to cut down the Oats any more, but let them shake; the Straw will keep the Trees warm in the Winter, and the shaken Seeds will arise instead of Grass, or Weeds, in the Spring. Thus both may continue to grow together, from Year to Year, until the Trees have grown to such a Bigness as to over-shade the Oats, which, then, for want of Air will decay, and a tender Grass will arise in their stead. If the Trees arise too thick, or grow at unequal Distances, they may be thin'd, and transplanted from where they are too thick, to where they are too thin.

This Method is preferable to any Nursery, for they here grow undisturb'd, in a natural Soil; and tho' the Charge of Enclosing be at first considerable, yet there is no more, but only the keeping up of these Enclosures; and the Improvements to be reap'd thereafter will be very great, especially in such Barren Places, where they are destitute both of Fire, and Wood for Timber; for in a few Years time, they may be supply'd with both; for the Broom, Whins and Branches of the Trees, may serve for the one, and the Trees themselves, when at a competent Bigness, will be very useful for the other.

Which leads me to an Improvement, for that Purpose, may be made by Broom. Enclose, with an ordinary Ditch, about four Acres square of this Barren Moorish Ground, Burn, Fallow, Till the Ground as above, sow two Parts of Oats, and a third of Broom Seed, let both grow up together; Reap the Oats the first Year, make another Enclosure
next

next to it, of the same Dimensions, next Year, and do with it in the same Manner; make a third Enclosure the third Year. On the fourth Year you may dig up the Broom from the first Enclosure, which will be then very thick, about four or five Foot high, and will make up several Loads, which, in some Places, may afford a good Price for Fire, and for Thatching of Houses, some chusing to pay so much a Rood for it, dig and carry it off themselves, others by the Load; the fifth Year dig up the Broom from the second Enclosure; and the third Enclosure may be digg'd up on the sixth Year. The Year after the Broom is digg'd up from every Enclosure, they sow it with Oats, and continue to sow and reap it for three successive Years; after which, they let the three Enclosures lie Lee, each in his Turn successively, and then the Broom arises, and affords as good a Price, after three Years growing, as at first; and if Pains is taken to make the Enclosure so good, as neither Sheep nor Hares can get in, the last of which strive earnestly after such Shelters, this Method may turn to a very good Account; and if young Firr's, Birch, Ashes, Alders, Sycamores, Sallows, if the Ground is Moist, are planted for a Fence within the Walls, the Use and Advantage of them will still be the greater.

There are so many mountainous, heathy, and barren Places in *England*, beside what are in its Northern Parts, *Scotland*, *Wales*, and *Cornwal*, as is observed, where, perhaps such Methods of Improvement are wanting, and hitherto not practised, that I thought it would be useful to the Publick to communicate these especially, since they have not been taken Notice of by any of those curious Gardiners, and Nursery Men, who make it their Business to improve Planting and Gardening in more fertile Places.

One may, by this Means, come to encompass a large Parcel of Ground at a very gradual Charge, i. e. by enclosing, sowing and improving four or six Acres from Year to Year, joining the one Enclosure to the other: This, after some Years, may render a large Quantity of Ground of great Value, which was formerly good for nothing.

XXV. *Arundo*.

Arundo vulgaris sive *φραγμιτрус* *Dioscoridis* C. B. P. 17. *Arundo vulgaris palustris* J. B. 2. 18. 485. Raii Hist. 1275. Moris. Hist. 3. 218. Tournef. 526. Common Reed.

XXVI. *Milium*.

Milium semine luteo vel albo C. B. P. 26. *Milium* J. B. 2. 18. 446. Raii Hist. 1251. Moris. Hist. 196. Tournef. 514. Millet.

XXVII.

XXVII. *Panicum*.

Panicum Germanicum C. B. P. 27. Tournef. 515. Raii. Hist. 1247. Moris. Hist. 188. *vulgare* I. B. 2. 18. 440. Panick.

The *TRIBE*.

I have joined these three culmiferous Plants together, next to *Avena*, that, with them, I may conclude this Decad, and the Letter A.

The *Description*.

Common Reed has a very knotty jointed Root, by which it runs and spreads very much, sending forth large hollow jointed Stalks, about a Man's Height, with one broad, grassy, tapering, somewhat pointed Leaf, from each Joint, and carrying on the Top, a large gross branched *Fuba*, *Coma*, or bushy Spike, of a brownish red Colour, consisting of several small Pedicles, with small Chaff enclosing the Flower, which becomes a small pappous or downy Seed.

The *Millet* is an annual Plant, with grass Leaves, like the former. The knotted, or jointed hollow Stalk, arises about two or three Foot high, supporting a loose branched much spread forth *Fuba*; the small Flowers have only one hollow small Leaf for an Empalement, or Chaff, surrounding small, white, hard, shining Grains for Seeds.

Panick is a Plant which resembles Wheat, being as tall, with broader Leaves; its Spike is compos'd of several other small Spikes, as it were branched, containing a great Number of Seeds, smaller than those of *Millet*.

The *Common Reed* is often seen among Corn, in moist Grounds, and grows very plentifully in Ditches and Marshes, especially in *Holland* in *Lincolnshire*.

Millet is sown in the Gardens, as is the *Panick*, but rarely.

Virtues and Uses.

Common Reed is of little or no Use in Physick, but very useful for thatching and covering of Houses, where it will last as long as either Tiles or Slate; neither is *Millet*, nor *Panick*, of much Use in Physick; the former is made use of for Food, in some Countries; the latter is said to be Astringent; but rarely to be had in *England*.

Auricula muris, vide *Pilosella*.

PHARMACO-BOTANOLOGIA:

O R,

An Alphabetical and Classcal DISSERTATION

ON ALL THE

British Indigenous and Garden Plants

OF THE

New *London* DISPENSATORY.

In Which

Their GENERA, SPECIES, *Characteristick and Distinctive*
NOTES are Methodically described; the *Botanical*
TERMS of ART explain'd; their *Virtues, Uses,*
and *Shop-Preparations* declared.

With many CURIOUS and USEFUL REMARKS,
from proper Observation.

DECAD IV.

By PATRICK BLAIR, M. D. of *Boston* in *Lincolnshire*,
and Fellow of the ROYAL SOCIETY.

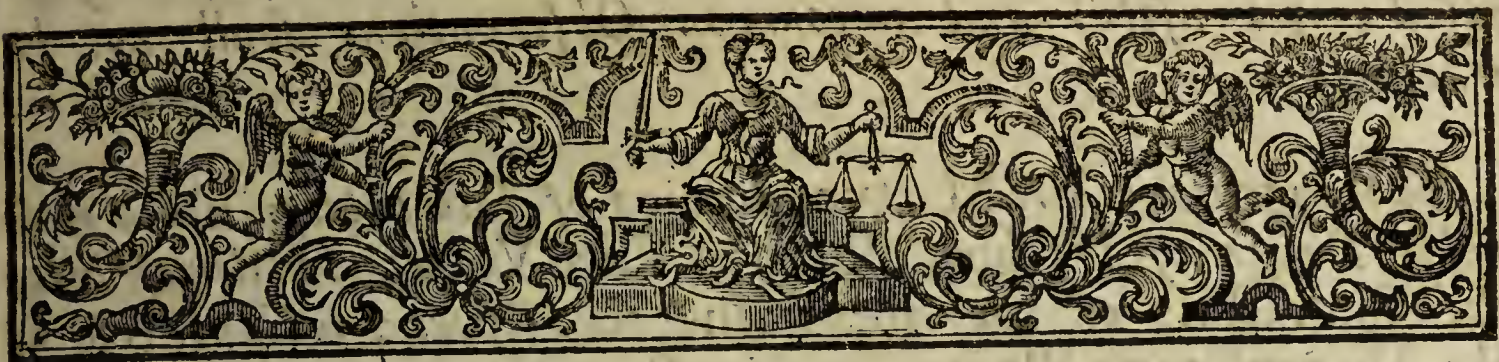
*Miseri mortales qui Naturam ejusque Artificium abdunt, ubique
diligentia Patens, & Amplissimos solis Radios Nubecula ob-
fuscant.*
Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN, at the *Golden Ball*, over-against
the *Royal Exchange* in *Cornhill*; W. and J. INNYs, at the
West End of *St. Paul's Churchyard*; and W. MEARS, at
the *Lamb* without *Temple-Bar*. MDCCXXVII.

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T H E
P R E F A C E
T O T H E
Fourth D E C A D.



THE Reason why this Fourth Decad has not been publish'd before this Time is, that I was lately diverted by making large Improvements of what I had formerly advanc'd on the Generation of Plants and Animals, and in answering of some Objections propos'd against it.

This comes abroad at length, to shew, that though I have made such a Delay, yet I have not abandon'd the Undertaking, and the Reader may be assured, the rest shall follow with all suitable Diligence. As these first four Decads contain an Explanation of the most material Classes, and Technical Words; and as several Plants from other Letters, have been brought hither, and join'd with their Congeners: So though the follow-
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ing (notwithstanding of the small Progress made in the Alphabet) will not be extended to such a Number as may be supposed; yet useful and uncommon Observations shall not be wanting.

The ingenious Mr. Martyn, having of late enterpris'd a most noble Design of teaching Botany, Viva Voce; to demonstrate the Characters of the Specimens themselves; making Use of the Dispensatory Plants for his Examples, according to Mr. Ray's Method, and abridging the Characters in a few Tables, entituled, *Tabulæ Synopticæ Plantarum Officinalium*. A fit Undertaking for such a Genius, and most conducing towards the Instruction of those whose Inclination leads them to make farther Improvements in the Knowledge of Botany, Materia Medica, and Pharmacy. The Spirits of many, who have hitherto been addicted to those Studies, and have remained dull and unactive for want of a Teacher, may now be excited and stirr'd up by the lively Representation and Demonstration of the Plants themselves.

My worthy Friend has thought fit to take Notice, that I have made two different Distributions of the Dispensatory Plants, the one purely Medicinal, the other Botanical and Medicinal, or Alphabetical and Classcal. Lest any should suppose he has thereby accus'd me of an Inconsistency, I think it proper to give my Reasons for so doing in this Place, and to shew how I take his Meaning of the following Paragraph.

Cæterum Distributionem illam ex viribus, cujusmodi Tabulam ab Amico nostro *Patricio Blair* compositam habemus, suos fateor habere usus; illam vero ad ipsas plantas discendas esse utilem ne ipse quidem eruditus Auctor in animum induxit; qui, in *Pharmaco-Botanologia* sua, aliam plane insistit viam. Quin ipsæ plantarum Vires a Generum similitudine sæpissime inveniuntur. Quæ enim generis socie-
tate

tate junguntur, plerumque, & similes possident facultates. Celsalp. præf. ad lib. de Plantis.

Being ever intent to teach Botany and Materia Medica in the most succinct and compendious Manner, and desirous to contribute what in me lay for the Instruction of the Young Beginners, I composed the Table of the Dispensatory Plants, distributed according to their Virtues, for the Benefit of those who only wanted to be instructed in Materia Medica, and the Therapeutical or practical Part of Physick. To which this Table may serve (as it were) for a perpetual Almanack; and since the ancient Method of distributing the Simples according to their Qualities and Degrees, as Calidum Siccum, &c. in 1mo, 2do Gradu, &c. is now exploded, and the Rationale upon the Operation of Medicines is plac'd upon another Basis by the Moderns; since no certain Rule has been establish'd to succeed, I thought fit to make a new Distribution according to their Particles and Pores, as gross and tenuious, &c. or according to the Effect they are suppos'd to have on the several Parts of the Body, as Cephalick, Stomachick, &c. as is to be seen and explain'd, Transact. N^o 364. Nor is the Harmony betwixt their Characters and Virtues quite neglected, for the Sem. 4 frigid. maj. are all of the Cucurbitaceæ; the Calida minora of the Umbelliferæ; many of the Cephalica among the Galeatæ & Labiatæ, &c. The Absinthia and Abrotana are Stomachicks and Vermifuges, &c.

Being also desirous that the knowing in Materia Medica, should thoroughly understand the Vegetable, which is its chief and principal Part, I could do it to no better Advantage than fully to make good the great Correspondence betwixt their Notes and Virtues, so far as it could be brought to bear. This is what I have had in my Mind long before I had any Hints of it from my late worthy Correspondent, Mr. Petiver, in Transact. N^o 255, or consider'd the Celebrated Herman's Proposition, Quæcunque & flore & semine conveniunt easdem possident virtutes; and again,
Omnia

Omnia semina striata sunt carminativa ; and I am glad to find by my worthy Friend, that Cæsalpinus was of the same Mind 150 Years ago.

It was that Consideration that induced me first to project the present PHARMACO-BOTANOLOGIA, the Plan of which is to be seen, Miscellan. Observ. N^o IV. VII. IX. where also the several Improvements made by Mr. Petiver and me, are to be observ'd on that Account.

I was sensible, a Distribution purely Alphabetical, would never answer the Design, as my Learned Friend has well observ'd, that it is, ad docendos Tyrones minus apta. For by that means instead of Separata conjungere, there must be Conjungenda separare v. g. It's better to unite Pinus to Abies, than to treat of Abies at A, and after a great Interval, to treat of Pinus at P. Many such Examples are to be seen in this present Undertaking ; nor would a Method purely Classical do, where the same Regard is to be had to the Virtues as to the Notes of Plants, as may be seen by Mr. Dale's Pharmacologia after Mr. Ray's ; and as I once essay'd to treat of the Dispensatory Plants after Tournefort's Method : So that I could contrive no better Means to answer my Purpose, than this mix'd Distribution, partly Alphabetical, partly Classical, and both Botanical and Medicinal. For in the former Medicinal Distribution I was confin'd to ascribe such Virtues to them as were longo usu recepta ; in this I have the Opportunity of uniting so many Plants together as correspond in their Notes, and at the same Time agree in their Virtues. I have also by this Method the Advantage of avoiding the Censure of Partiality, which, how equally soever I could behave, I am sensible the Bigotry of some, and their being too zealously affected to one more than another, and the Rashness of others more inconsiderate, by their not being acquainted with any more than one Method, would be ready to cast upon me.

P R E F A C E.

V

By this Means I am at the greatest Freedom ; not being obliged to recommend one Method as more excellent, or decry the other as not so good ; but to join them all together, and so to reconcile them, as to shew their Excellency in general, and the great Advantages that attend the teaching by Method, demonstrating thereby that there is no such Discrepancy among them as at first View may appear, or the more ignorant may imagine ; but that every one is able to lead the Student into a more intimate Knowledge of Plants than they could well acquire without Method : The great Difference chiefly lying in the different Manner of Expression, and in the Terms of Art which I have taken Care to explain when they first come in my Way.

By what is said, it's plain, I neither have been inconsistent with myself in these so far different Distributions, nor do's my Friend seem to blame me for being so. I join with him, that both a purely Alphabetical, and purely Medicinal Method, are, ad Tyrones Botanicos docendos minus aptæ, tho' the latter suos habet usus ; and I hope, he'll allow that a Distribution purely Methodical, was no wise suitable to my Design.

I acknowledge he was necessarily obliged to confine himself to one particular Method, nor was there any so fit for his Purpose as that of Mr. Ray : For as Tournefort's Method is still taught in France, and Herman's (built upon Dr. Morrifon's Foundation and improv'd by Boerhave) is still used at Leyden. So Mr. Ray's is the only one proper for Mr. Martyn, it being universally adher'd to in England ; besides, it is no small Advantage that the Indigenous British Plants, with their Locus Natalis, are most regularly disposed, and plainly inserted according to the same Method in that valuable Treatise of Mr. Ray's Synop. Stirp. Brit. of late so much improv'd and augmented.

To conclude, it's my humble Opinion, nothing can contribute more to lay a solid Foundation for the Knowledge of Botany and Materia Medica than these our joint Endeavours ; for as he lays
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the Foundation for Botany by one particular Method, so all the rest are to be known by the Use of this present Undertaking; and as he has pitch'd upon the Dispensatory Plants for his Examples, so my Medicinal Table, and the Account I herein give of their Virtues and Uses, lays a good Foundation for the Knowledge of the Vegetable, which is the chief Part of Materia Medica: And I may further add, that by these Specimens of Simples and their Virtues, we are able to demonstrate, that Britain alone, can furnish a sufficient Number of Drugs of its own Product, to compound fit Medicines for the Cure of the Diseases incident to the Inhabitants of this Island, as I could prove more largely, if it were requisite.

This Decad contains several Things notatu digna, as 1. The Classes: Bardana major begins the Letter B, with the Capitata. Minor is either class'd with the Apetali, or flores flosculosi. The Behen of the Antients being unknown, Lychnis Sylv. the first of the Caryophylleous Tribe, is substituted for the Album, and Limonium, another of Tournefort's Caryophylleous Genera for the Rubrum. Bellis major and minor, Bupthalmum and Calendula continue the Corymbiferæ Radiatæ: Beta and Bistorta are of the Apetalæ. Betonica aquat. and Scrophularia are among the Monopetalæ anomalæ. Brassica sativa and Bursa pastoris are among the Tetrapetalæ Siliculosæ. Brassica marina is the only Indigenous Officinal Convolvulus. Bruscus, &c. are among the Bacciferæ non Scandentes, and Bryonia of the Scandentes. Borrago introduces the Gymnote-traspermæ Asperifoliæ, which is continu'd in Buglossum, &c. Calamintha begins the Letter C. Mentha, by the Affinity of the Taste, Smell, and Virtues, might have been join'd to it, but the Flower would not admit of the Union. When Hedera Terrestris might have been separated on the same Account, if it had not been for the Flower. Caprifolium is the first Bacciferous Shrub, and concludes this Decad.

2. The

2. The universal and perennial Circulation of the Sap, is hinted at in *Betula*, where 'tis observable, that instead of stagnating and thickning, like a Gum in the Winter, as a certain Writer has asserted, it's chiefly employ'd in the Accretion of the Wood, and Bark, as appears by the annual Circles of the former. That at the Winter and Summer Solstice, these being call'd the Setting Times, it's chiefly employ'd in augmenting and stretching forth of the Root; and when these Functions are perform'd, its Business is to push forth the annual Surface and vernal Shoots, and ripening of the Fruit in the Autumn. So that this plentiful Effusion of Sap, upon boring or piercing of the Birch Tree in the Spring, is because the Sap being diverted from augmenting of Wood, Bark, and Root, forc'd up by a daily additional Supply of Particles, which ascend from the Earth in greater Quantity by the Heat of the Sun, in its nearer Approach to our Horizon, and being confin'd in narrower Bounds before the Annual Surface. viz. the Leaves, Katkins, and Vernal Shoots be fully stretcht, continues to flow in such Abundance throughout the Trunk of the Tree; and, what is most remarkable, as this Surface is gradually augmented, so this Efflux of the Sap sensibly diminishes. Let me add, that at the drying up of the exile Membranes of the Bark, the Orifices of the Vessels which nourish'd them are stopp'd, and the Quantity of the Sap which flows into the Sap-Vessels of the Trunk is thereby augmented.

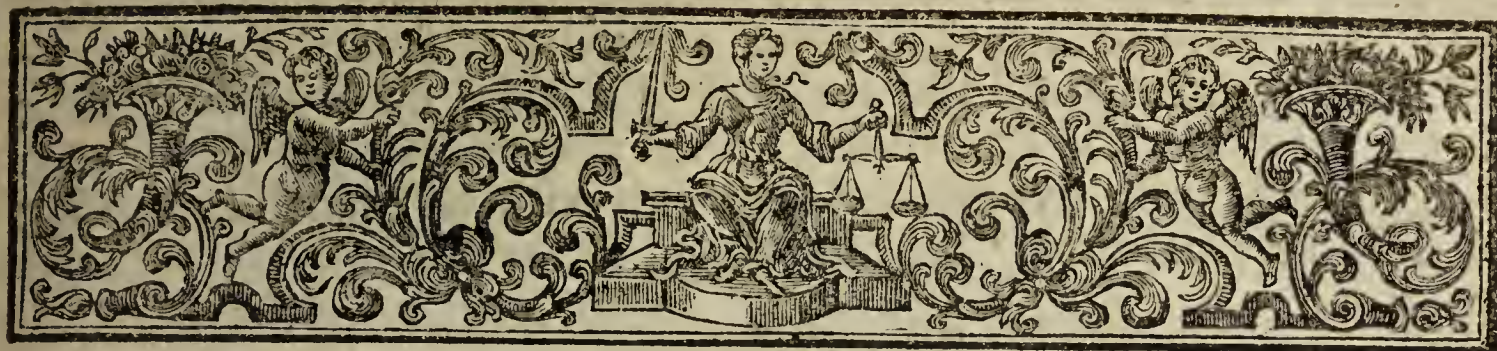
The same is also observable in *Caprifolium* and *Vitis*, which throw their Bark every 2d or 3d Year, by which the Sap of the Trunk is vastly augmented, as may be observ'd in the tapping or wounding of a Vine in the Spring, before the Annual Surface is fully stretcht forth.

3. The Sexes of Plants in *Bryonia* and *Cannabis*, when because the Male often happens to be at a great Distance in the first; also in *Lupulus*, they are more frequently propagated by the

the Root, than by the Seed; and when the second being annual, if the Male Plants be too soon pull'd, the Female Embryons become abortive and barren; an Error several have been guilty of, who, to save the Hemp of what they call the Femmels, (i.e. the Male Plants) have pull'd them before the Farina from the Flowers was shed; and the Female Embryons were impregnated: So that they have lost the Value of their Seed for Oil, and the Product of the Ground, if they chance to sow it with that Seed next Year.

4. The Effect of Air on Plants. If Lewenhock has observ'd 172090 perspiring Pores in one Surface of so small and firm a Leaf as that of the Box Tree, making 344180 in both Surfaces, what an infinite Number must we imagine to be, in one of so loose a Texture as that of a Vine, and how much more in that of Tobacco; and if the Pores be for the Transmission of superfluous Particles, which Way can we suppose any aerial Particles to be admitted, and where's the Necessity of Tracheæ or Air Vessels? From whence I may reasonably conclude, the good and bad Effect of the Air upon Plants, must depend upon the greater or less Pressure of the Atmosphere, the conciliating of a more free and regular, the more moderate or immoderate Perspiration of Particles from the Sap Vessels in Plants, as of the Blood in Animals; and that the Air can in no wise contribute exwards the Nourishment of the one more than of the other.

Though I have treated, and resolve to continue in treating at large on these three, viz. The Generation and Manner of Impregnation of Plants, the universal and perennial Circulation of their Sap, and the Effect of Air, and Manner of Nourishment of Plants on other Occasions; yet I thought fit to give these Hints, in discoursing on Plants fit for that Purpose in this Decad, hoping the Reader will excuse so tedious and prolix a Preface.



PHARMACO-BOTANOLOGIA:

OR, A

TREATISE

OF

DISPENSATORY PLANTS,

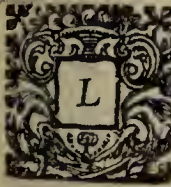
Alphabetically and Classically disposed.

DECAD IV.

B.

Balsamita Mas, vide Abrotanum Fœmina.

I. BARDANA MAJOR.

 *APPA* *Arctium* *Dioscoridis*, C. B. P. 198. *Tournef. Inst.* 50. *Personata* sive *Lappa major* aut *Bardana*, J. B. 3. 32. 570. *Raii Hist.* 332. *Synop. Stirp. Brit.* 3. 197. *Morif. Hist.* 3. 146. *Personata*, *Lappa major*, *Bardana* *Lob. Ic.* 588. Common Burdock.

The *TRIBE* of *Bardana*.

This is the first of those call'd by most Authors, *Capitate*, to which *Boerhave* has added *Gymnomonosperme*, because one Seed succeeds to each Flower, and *Tournefort*, who always regards the Flower, calls it *Flos*
P p *flosculosus*.

flosculosus. Mr. Ray says they are *flores ex flosculis fistularibus compositi*. They are said to be *Capitatae*, because they have a large turgid scaly *Empalement*, called their *Head*, consisting of several small pointed Leaves spirally plac'd like the *Scale* of a Fish, closely surrounding the *floscules* until the Expansion; which afterwards burst forth, each being divided into five pointed Segments with a *Vagina* surrounding the bifid *Capillamentum*. See *Abrotanum*, Decad I.

The Description.

This is a *biennial Plant* arising from the *Seed* the first Year, and spread forth into several large broad somewhat pointed soft *Leaves*, somewhat downy below, upon long *Foot-stalks* branch'd into several round crested *Stalks* and *Branches* loaded with the *Burs* on the upper Part, consisting of an *Empalement*, each of whose *Squamæ* are endow'd with bended Hooks, by which they catch hold of or adhere to the Cloaths of the Passengers. The *floscules* burst forth purplish, the bifid *Capillamenta* arise much higher, pouring the *Farina* into the *Sheath*, which conveys it into the *Embryo seminis*, which afterwards becomes an angular oblong hard and solid *Seed* perpendicularly plac'd in a *Thalamus*, and surrounded with a *Pappo* or Down, when the *Seeds* are ripe, the second Year, the whole *Plant* decays. The *Root* is simple, gross, and *Carnous*; the first Year it becomes hard and Woody, when the *flowering Stem* begins to be push'd forth, cover'd with a *spongy* thick Bark, which easily separates and is the Part us'd in *Physick*.

Virtues and Uses.

The *Burdock* seldom enters any Dispensatory Preparations. The whole Plant is aperient; I have seen a Ptisane made of the *Rad. Bardanae*, and *Petasit.* and given with Success to those seiz'd with *malignant Fevers* and *Small Pox*. The *Seeds* are also aperient, and either drank in Infusions for the Gravel or Jaundice, &c. or given in Powder with other Lithontriptick and aperient Medicines. The fresh Leaves apply'd to the affected Joint, are said to ease the Gout.

II. *Bardana Minor*, sive *Xanthium*.

Xanthium, Dod. Pempt. 39. *Lappa minor*, *Xanthium Dioscoridis*, C. B. 198 Tournef. Instit. 439. *Xanthium*, sive *Lappa*, J. B. 3. 33. 572. Raii Hist.

Hist. 165. Synops. Stirp. Brit. 55. Morif. Hist. 604. Hort. Edinb. 185.
Hist. des Plantes, 312. Lesser Burdock.

The *TRIBE*.

Authors differ much in the classing of this Plant: *Bobart* places it among the *Anomala*, i. e. *incertæ sedis*, *Ray* will have it to be *flore apetalæ, sive stamineo a fructu remoto*; *Tournefort* places it among the *flores flosculosi*, *Boerhave* is indifferent which, for he says it has either *flores flosculosi* or *Apetali*.

The Description.

It is an annual Plant arising one or two Foot high, with a straight rough round branched *Stalk*, and alternate Leaves upon long *Pedicles*, which from a narrow Beginning is enlarg'd towards the Middle, whence it is taper, and becomes narrower towards the Point, notched or indented at the Edges like those of *Trachelion* or *Urtica*, rough and darker or paler Green. The *Flowers* arise in Clusters from the Bottom of the *Foot-stalks* or *Branches*, globulous, and endow'd with several long small bifid *Capillaments* from short almost imperceptible *floscules*: These having no succeeding Embryons, may be called *male Flowers*; below these from the same Joints appear an echinated or prickly oval Fruit, divided into two Pouches, each containing for the most part one single compressed *Seed*.

It loves a fat Soil; I have observ'd it frequently growing in the Bottoms of Dunghills in *Flanders*: In *England*, it has been observ'd by *Mr. Ray* in the Road betwixt *Portsmouth* and *London*; also near *Dulwich*.

Virtues and Uses.

It's not much in modern Use. It's recommended for *Scrophulous Tumors*, *Tetters*, and purifying of the *Blood*. The clarified Juice may either be given with a little White Wine, or a Tea may be made of the dry'd Leaves. An Extract of it may be given to ʒj. The Leaves may be apply'd externally to the *Files* and *Scrophulous Tumors*.

Becabungä,

Becabunga, vide Anagallis.

III. *Beben Album.*

Been album *Offic.* Ger. 550. J. B. 3. 356. *Lychnis sylv. quæ Been alb. vulg.* C. B. P. 205. *sylv. perennis quæ Been alb. vulg.* Moris. Hist. 2. 535. Raii Hist. 998. Tournef. 335. Boerh. Ind. 211. Spatling Poppy.

The T R I B E.

This Plant is class'd among that Genus of Plants said to be *flore Caryophylleo donatæ* by *Tournefort*, whose Notes are, that they consist of several Petals arising from an oblong tubulous *Calix*, the only Note by which they are distinguished from the *flores Rosacei*, whose *Calix* is not tubulous. Mr. *Ray* places those of this Class with several others, among the *pentapetalæ vasculiferae*, as does *Boerhave* with the *Monangiospermae*.

The Description.

It's a perennial Plant with a white woody Root, emitting small smooth, round, jointed *Stalks*, about half a Foot high. Its *Leaves* proceed from the joints by Pairs, without *Foot-stalks*, like the other *Lychnis*, broad at the Base, tapering and pointed, in some Species more rough, in others smooth. The *Flowers* on the upper Part of the *Stalk* and Branches are white, *pentapetalous* in some Species, or rather variations; much larger in others. The Petals are flat and narrow, as they arise from the *Calix*, being as it were *Foot-stalks* to the Heart-like expanded Part, surrounded by an oblong loose tubulous tumid Empalement, divided into five pointed Segments at the Top, with ten *Stamina* in the Center, whereof 5 are longer and 5 shorter, with yellow *apices*, and a tripartite *Stylus*, or rather 3 white round *Styli* arising from the Top of the *Embryo fructus*, incurvated and mounting higher than the *Stamina*. This *Embryon* becomes an oblong conical or pointed *Capsule* or *Seed Vessel*, opening by six Divisions at the Top, and pouring out small round dark-colour'd *Seeds* from the *Pouches* when ripe. It grows frequently in the Corn Fields. It's seldom us'd in Physick, and Authors are silent as to its Virtues.

IV. *Beben*

IV. *Behen rubrum.*

Limonium marit. C. B. P. 192. Tournef. Instit. 342. *maj. vulg.* Park. 1234. *Limonium* Ger. 411. Raii Hist. 395. Synops. Stirp. Brit. 99. Moris. Hist. 3. 600. *maj. multis aliis Behen rub.* J. B. 2. App. 879. *Valeriane rubrae similis pro Limonio missa.* Dod. Pemp. 351. Sea Lavender.

The T R I B E.

Authors differ much in the Distribution of this *Plant*. *Bobart* places it among the *Anomala*. Mr. *Ray* in his History, places it among the *Umbelliferae*, being (I suppose) induced to it by Dr. *Morison*, who has a Section of those he calls *Umbelliferae Improprie dictae*, among which is *Valeriana*, and near to it, by Mr. *Ray*'s Method, *Limonium* is always placed; but in the *Synops. Stirp. Brit.* it's rank'd among the *Flores simplices seminibus nudis solitariis*. *Tournefort* places it among the *Flores Caryophyllei*, and not unfitly makes it a Neighbour to *Statice* or *Caryophyllus maritimus*. *Boerhave* with *Ray* makes it one of the *Gymnomospermae fl. simplici*. A more strict Examination would almost incline me to place it along with *Primula veris*, for Reasons to be assign'd hereafter. But it's not my Desire to bring *Method* into Confusion, by an unnecessary Multiplication or Alteration of the Distribution of *Species*, but rather to prevent any Disorder, by reconciling the several *Methods* together.

The Description.

It has a woody gros running *Root*, black without and reddish within, divided at the upper Part into several Portions about the Bigness of one's little Finger, and running deep in the Ground, which being united below, form several Knots, from whence proceed some *stolones*, or new *shoots*, which creeping below Ground, propagate the *Species*. At the upper Part of each, the Germen or Bud is cloathed with several loose Membranes, amidst which break forth late in the Spring 5, 6, or 7 Leaves in a Circle, each supported by long narrow *Footstalks*, smooth, stiff, dark green, and shining, about an Inch in the middle or broadest Part, 2 Inches long, narrow at each End, more obtuse or pointed at the Extremity, not unlike the Leaf of the *Limon-tree*, from which Resemblance it has the Name. The small round stiff upright naked Stalk arises about half a Foot high from the Middle, branched and spread forth at the upper Part, each Branch

Q q

thickly

thickly beset with Flowers, tending obliquely upwards, dispos'd like the Teeth of a Comb on the upper Part. The Flowers are small, pentapetalous and reddish, several included together in one common, and each endow'd with its own proper tubulous *Perianthium*, florid at the Border, of the same Colour with the Flower like the *Species* of *Primula veris*, called on that Account *Polyanthos*, for after the Flower of *Limonium* is faded, or the *Petals* dropp'd, the *Perianthium* still remaining, keeps the Appearance of the Flower. This Flower is sometimes *monopetalous*, with 5 *Stamina*; or it may be reckon'd always *pentapetaloid*, the *Stamina* arising from the inner Surface of the deep divided *Petala*. Though it be esteem'd *semine nudo monospermus*, yet being at some Pains to examine it, I have observ'd it to have a conical *Seed Vessel* like *Primula veris*, and even to have 2 or 3 Seeds to succeed each Flower; but its Flowers are so numerous, and it's so ready to be propagated by the Root, that it brings but few Seeds to perfection; these drop so soon after the Flower is decay'd, and it's so very minute that it's not worth while to alter the Distribution.

This Plant requires rather a Botanical Description, than a Medicinal Consideration, being seldom us'd in Physick. It may be justly reckon'd an *Astringent*, and prescrib'd with other *astringent* Medicines. The Root is rather to be us'd, for the Seeds are rare to be had.

It grows very frequent on the Sea Coast in *Holland* in *Lincolnshire*, on each Side the River *Witham* at *Boston*, and is very frequent on the other Side of the Wash towards *Holbeach*, and affords a pleasant Spectacle in its flowering Time, all the Months of *July* and *August*.

V. *Bellis major*.

Bellis maj. J. B. 3. 26. 114. *sylv.* *Caule folioso maj.* C. B. P. 261. *major* Dod. pempt. 265. Raii Hist. 250. Synopf. Stirp. Brit. 91. *polyclonos sylv. maj. caule folioso* Morif. Hist. 3. 29. *Leucanthemum* Tournef. Instit. 292. Hist. des Plants 109. Great Daisy.

VI. *Bellis minor*.

Bellis sylv. minor C. B. P. 261. Tournef. Instit. 491. Hist. des plants 57. Raii Hist. 349. Synop. Stirp. Brit. 91. *minor sylv. spontanea.* J. B. 3. 26. 111. *minor sylv.* Tabern. Icones 328. Morif. Hist. 3. 31. Lesser wild Daisy.

The T R I B E.

These two continue that Genus of Plants called by Mr. Ray, *Corymbifera Radiata*. By Boerhave, *Gymnomonosperma disciflora*; and by Tournefort, *Flore Radiato donata*. I have in the first Decad explain'd what is meant by *Corymbus*, and shewn that the *Corymbifera* are divided into *Nuda* and *Radiata* at *Aster*: That the *Nuda* consist of the *Discus* only, viz. of a Congeries of thick set small *Floscules* or *Flourishes* in *Capitulum Collectæ*. These here consist of a *Radius* or Row of *Semifloscules* or half *Flourishes*, called by Tournefort the *Corona*. What these *Floscules* and *Semifloscules* are, how they are placed on the Top of the several *Embryons*, and fixt in a proper *Thalamus*, and surrounded by a common *Calyx*, has been already explain'd.

The Description.

V. The greater *Daisy* has a fibrous perennial somewhat creeping *Root*, emitting one or more five-square solid upright *Stalks*, about one Foot high, adorn'd with *Leaves*, and sometimes branch'd at the upper Part.

The alternate *Leaves* are oblong notch'd and blunt pointed of a dark Green. The *Flowers*, one or more on the Top of the *Stalk* and *Branches*, are large, with a yellow *Discus* and white *Radii* or *Corona* about the Bigness of *Bupthalmum* or *Corn-marigold* call'd *Chrysanthemum Segetum*, on whose Account this *Plant* is not unfitly call'd *Leucanthemum* by Tournefort, because as the one is of a specious Gold, so the other is of a White Colour. The *Seeds* are small, oblong and solid, like those of other *Corymbiferous Plants*.

VI. The lesser *Daisy*, from a fine fibrous *Root*, sends forth numerous small oblong or oval stiff somewhat hairy *Leaves*, thick spread on the Ground, amidst of which arise frequent small round hairy *Footstalks*, supporting proportionally small *Flowers*, with a yellow *Discus*, and white *Corona*, sometimes redish without, compos'd of one, two, or more Rows of *Flourishes*, and sometimes more double. There is a pleasant Variety of them in the Gardens, double, or consisting only of *Semifloscules*, red white, or red without and white within, and sometimes endow'd only with *Floscules* or tubulous *Petals*, not like those of the *Discus*, but of the former red white, or Party-colour.

Time

Time and Place.

Both grow plentifully in the Fields, the former not so frequent about Hedge Sides, and upon grassy Banks, flowering in *May* and *June*. The latter flowering in the Pastures and Meadows all the Summer, especially the Spring.

Virtues and Uses.

They may be properly called Sub-astringents, and are esteem'd good Vulneraries. The former is frequently us'd in Pectoral Decoctions and Ptisans in Hectic, Phthysical, and Consumptive Cases, also in Vulnerary Decoctions. The latter is call'd in the Shops *Symphytum minimum*, or *Consolida minima*, because of its vulnerary and astringent Quality, by which it is a proper Ingredient in *vulnerary Balsams*, by drawing of the Juice, or boiling of the green Flowers and Leaves among other Ingredients, by which they make Salves or Oyntments, both are great Correctors of Acrimony, and by their Astringency fit to stop *Hæmorrhages*, *Dysenteries*, and *Spitting of Blood*. The Flowers of the former are kept dry in the Shops for the aforesaid Uses. The latter is frequently pull'd up green from the Field.

VII. *Berberis*.

Berberis dumetorum, C. B. P. 454. vulgo quæ *Oxyacantha putata*, J. B. I. 6. 52. Raii 605. Tournef. Instit. 614. Boer. Ind. 233. The Barberry.

The T R I B E.

This *Tree* or rather *Shrub* is class'd by all *Authors* among the *Baccifera*, according to the Fruit: And *Flores Rosacei*, by *Tournefort* and *Boerhave*, according to the *Flower*.

The Description.

It's of a middle Size, betwixt a *Tree* and a *Shrub*, sometimes arising higher with one Stem, and at other Times lower and bushy, having several small Rods or Twigs arising streight from the Root, and much branch'd at the Top, always very prickly or thorny, two or three prickles proceeding from the same Origine near to the Leaf. Its alternate *Leaves* like those of the *Prunus Sylv.* are thinner, of a lighter Green,

Green, narrow at the Bottom, and cloathed with fine soft prickles round the Edges. The *Flowers* hang loose upon dependent *Racemi* or *Strings*, yellow, *Rosaceous*, *hexapetalous*, with a small bifid outward, and *hexaphyllous Perianthium* within globulous, each *Petal* being endow'd with a *Balsamick* spungy Substance at the Origine. At the Bottom is placed a *Cylindrical erect Embryo*, with a spongy *placenta* on the Top, from whose Center the green *Stylus* arises. The *Embryo* becomes afterwards a *Cylindrical* soft succulent *Fruit* or *Berry*, of a pure Scarlet when ripe, containing one or more, and sometimes no seed at all. The *Bark* is ash-colour'd or greyish without, full of Rents or wrinkles, and of a Saffron Yellow within. The Wood spongy, with a large Pith. The *Root* spread forth, but not running deep in the Ground, more solid, and of a yellow Colour. It's frequently cultivated in Gardens, on Account of the Fruit; grows plentifully on the Chalky Hills near *Saffron-Walden*.

Virtues and Uses.

The *Barberries* have a pleasant tart or sour Taste, and are esteem'd one of the most delicious *Pickles* at a Table; a *Jelly* may be made of them for quenching of Thirst in hot Fevers. The inner Bark of the Tree, but especially of the Root, is esteem'd a great *Aperient*, and a *Specifick* in the *Jaundice*: Whether this frequent Use of it in such a Disease, has proceeded from a fond Conceit the Antients had of what they call'd the *Signature*, because of its being of the same Colour with those affected with that Disease, is uncertain; but there is no Medicine more recommended in *Icteric* Cases, than the *Radix Curcumæ*, *Cort. Berb.* and *Rad. Rhabarb.* all which are distinguishable for their yellow Colour; but their being so good *Deobstruents* and *Aperients*, are good Reasons for their being prescrib'd here. It's likewise a good *Diuretick*. The Bark enters medicated Infusions with Wine or Ale, in *Icteric*, *Lithonriptical*, and other *deobstruent Medicines*.

VIII. Beta.

1. *Beta alba pallescens quæ sicula vel sicla* Offic. C. B. 118. Moris. Hist. 596. Tournef. Hist. 502. Raii Hist. 204. *candida*, J. B. 2. 961. White Garden Beet.
2. *Beta rub. vulg.* C. B. Tournef. R. Hist. Moris. Hist. *rub.* J. B. Red Beet.
3. *Beta nig.* C. B. &c. Black Beet.

The T R I B E.

These Beets are reckon'd among the *Apetalous* or *Stamineous Flowers* by all Authors. Though the *white*, *red*, and *black*, be only enumerated among the *Dispensatory Plants*; yet the *green*, the most common in the Gardens, though neglected by most Authors except *Baubinus*, and by several who have quoted him, is the most frequent. I have elsewhere observ'd, that some *Beets* are black or red with *green Veins*, red with *black Veins*, black with *red Veins*, and some of both Colours with *white* or *yellowish Veins*, which I rather look upon as Variations than real *Species*, proceeding from the Effluvia of several *Farina's*; and although the black and red are seldom to be seen without Veins of another Colour from that of the Leaf itself, yet I'm convinc'd the true *Species* of each were all of the same Colour; nay, to go further in this Opinion, 'tis probable that all the Plants in the Garden of *Eden*, or rather on the whole Face of the Earth, were either of a *simple Colour* and *single Flower*, and the Variety which have appear'd since, are only the Effect of *Culture* or *Effluvia*, v. g. *Aquilegia*, whose Description and Use see *Decad* 3. p. 110, has primarily its Colour what they call a true Blue, and its Petals fixt to the Number 10, (*viz.* 5 plain and 5 tubulous) yet what a vast Variety of *Stripes*, *Colours*, and *diversity* in the *Figure* and Number of *Petals*, do we observe to have proceeded from thence, which must only be the Effect of *Culture* or *Effluvia*; but of this more in another Treatise. To add further; the greatest Variety of *Colours* of this Sort we find to stroll from a *primary Blue* or *Red*, which never cease until they have arriv'd at a pure *White*, and from thence seldom degenerate; seldom does a *Yellow* vary in Colour, save to a *White*, and that but rarely; most *yellow Flowers* vary in the Number of *Petals*, and as often do they degenerate from double to single, unless prevented by *Culture*.

The Description.

All these *Beets* have carneous or ligneous Roots, according to the Age, divided or subdivided into large Portions, white, more green or red, according to the Variety of *Species*, from whence proceed the first Season several large oblong and blunt Leaves like those of the *Lapatha*, upon long *Foot-stalks* stiff, thick, smooth, whitish, more green, black, red, with different Veins as above. The second Year arises the Stalk 1, 2, 3, or more Feet high, according to the Soil, small, round, striated from the Bosom of the Leaves. On the upper Part
of

of the Stalk and Branches proceed the small *Flowers*, thick set on a long Row or *Spike*, several in a Cluster, and containing several *stamina* with their proper *apices* within a *quinquifid Empalement*, the green *Ovarium* or *Testa* becomes a Globule, consisting of 3 or 4 *Seed Vessels*, wartlike, or rugged, and stoney, closely united and firmly adherent, each containing one single *Seed*. They are cultivated in the *Gardens*, produce *Flowers* and *Seed* after the 2d and 3d Year, love a fat Soil, and may be propagated by *Seed* or *Root*.

Virtues and Uses.

The *Beet* is rather fit for the *Kitchen* than the *Shops*; in the former 'tis made Use of for a boil'd *Sallad* in the Spring, being eat with *Butter*, by itself or with other *Greens* in that Season. It moderately opens the Body. Its Use in the *Shops* is chiefly with *emolient Herbs* for *Clysters*. It has a nitrous Smell, and Taste not unlike *Parietaria*, but more pungent, for the Juice suck'd up the Nose makes a good *Er-rhine* and a plentiful pituitous Evacuation from thence. It serves for the same Uses as others, its Congeners, such as the *Atriplex* and *Chenopodium* Kind.

IX. *Betonica Aquatica & Scrophularia.*

1. *Scrophularia aquat. maj.* C. B. 235. *maxima fibrosa Radice* J. B. 204. 21. *Aquat. Radice fibrosa betonice fol.* Moris. Hist. 2. 482. *Betonica aquatilis* Dod. pempt. 50. Water Betony or Figwort.

2. *Scrophularia nodosa fætida* Tournef. Instit. 166. T. 74. C. B. 235. *Vulg. & maj.* J. B. 3. 30. 421. *Scrophularia rad. nodosa fætida*, Moris. Hist. 2. 482. *major* Raii Hist. 764. *Scrophularia*, Dod. pempt. 56. Hist. des Plants 144. Synops. Stirp. Brit. 161. Figwort.

Tournefort in classing by the *Flower*, places this *Genus* among the *Flores Anomali*, in which he's follow'd by *Boerhave*, who follows *Morison's* Distribution by the *Fruit*: For *Morison* places it among the *Monopetalæ Bicapsulares*, and *Boerhave*, with the *Diangiæ Polyspermæ*. Mr. *Ray's* Distribution is more general, by making it only a *Planta Vasculifera flore monopetalo*.

1. *Water Betony*, so call'd, from the *Resemblance* of its Leaves with the under-written, has a very fibrous Root, from whence arises a jointed four-square streight branched *Stalk* (with Leaves like those of *Betony*, but much larger and lighter green) 3 or 4 Foot high.

2. *Common Figwort* has a large knobby or knotted *Root*, a streight four-Square hollow *Stalk* with the former, but more dark or purplish, from

from whence proceed large dark Leaves nitcht or dented like those of the *Common Nettle*. The *Flowers* from the upper Part of the *Stalk* and *Branches* are of a dark Colour without, *Globulous* or turgent, divided into two Lips, the upper having a small Leaf on each Side like two Ears, the lower dependent or tended downwards with large Jaws; from the Inside arise the 4 *Stamina* with their *apices*; the *Embryo* becomes a round conical and pointed *Fruit*, divided into two Pouches opening at the Top, and pouring out small ripe *Seeds*.

Both are perennial Plants, distinguishable by the larger and less *Leaf*, and by the knobby and fibrous Root, with the same Taste and Smell, the one grows at the Sides of Hedges and shady Places of Pastures and Meadows: The other, *viz.* Water Betony, grows in more moist and watry Places.

Virtues and Uses.

Both having the same Notes, partake of the same Virtues, but the *Figwort* by the *Resemblance* of the Knobs of the *Root*, is more especially recommended for the *Piles*. It seems on Account of the Signature, for which Account it's also recommended for *Scrophulous Tumors*: It's esteem'd a good *Discutient* or *Repellent*, very cooling and fit for allaying of *Inflammations*: Its Juice is also recommended for cleansing of the most *sordid Ulcers*: The *Ung. Scrophulariæ* is also esteem'd fit for dissolving of *scrophulous Tumours*, and the *Piles* or *Hemorrhoids*. It's not much requir'd for internal Use. The Roots of Water Betony were some Years ago recommended to be given in Infusions, as a great *Corrective* for *Senna*: and certain eminent Physicians seldom prescrib'd the one without the other, for what Reason I know not, but both the *Figworts* seem to me to partake of the same Virtues.

X. *Betonica Vulg.*

Betonica purp. Tournef. Instit. 202. T. 96. C. B. 235. Hist. des Plantes 320. Raii Hist. 550. Synopsis. Stirp. Brit. 127. *Vulg. purp.* J. B. 3. 38. 301. *Betonica* Dod. pempt. 40. Moris. Hist. 364. *Common Betony*.

This Introduces one of the largest and most remarkable Classes in *Botany*, and the least subject to *Variations*, being endow'd with a small single simple-colour'd *monopetalous Flower*, scarce any being *Poly-petalous*, becoming double or varying in their *Stripes* or *Colour*, either by *Culture* or *Effluvia*. They are call'd *Verticillatæ* & *Spicatæ* by *Morison* and *Ray*; *Labiata*, by *Tournefort*; *Gymnotetraspermæ*, by *Boerhave*: There are several Things remarkable in them in general, as 1. Many of

If they are woody, perennial, commonly call'd *Suffrutices*, or *Under Shrubs*, which will continue for some Years. 2. Their *Leaves* always proceed from the *Stalk* by Pairs, by which they differ from the *Asperifoliae*; for some of them have the same Fashion of *Flower*, and Manner of *Fructification*; yet the *Leaves of the Asperifoliae* are always alternate and much larger. 3. Their *Flower* is always small in Proportion to the Plant, and for the most part with unequal *Borders*, or divided into two Lips, tho' some have a *quadripartite* Division into equal Parts, instead of a *bipartite* or *tripartite*; and some have only one Lip, the 4 *Stamina* supplying the Defect of the other. Some Authors are pleas'd to term these *irregular*, *dissimilar*, and *difform*, which I think ought to be reject'd, as well as that of an *imperfect Flower*. I have often observ'd, that no *Flower* or Part of any Plant or Animal which keeps up to those Rules determin'd to it by the *Author of Nature*, can be call'd *imperfect*: Neither can they be call'd *irregular* for the same Reason, nor *dissimilar*, because every *Flower* of the same *Species* has a Resemblance to the other, neither can it be call'd *difform*, since the Form, Shape, and Fashion of all the *Flowers* is the same; but for Distinction Sake *oris aequalibus* and *inaequalibus* must be admitted, because the one Border often differs from the other in *Figure* and *Dimensions*. Their *Shape* is tubulous, or contracted into a proportionally long narrow Pipe at the Bottom, and enlarged towards the *Border* into two Lips, the upper, (which is frequently call'd the *Galea* or *Helmet*,) and the lower Lip: Sometimes it consists of 4 equal Borders. They are frequently enclosed into an oblong quinquifid *Perianthium*, divided for the most Part into 5 unequal, and sometimes equal pointed *Segments*. Their Posture is frequently obliquely ascendent. They have an hollow *tubulous*, frequently bended or crooked *Stylus*, without a Button arising from the Center of the *Pedicle*, and surrounded by four *Embryons*. They have 4 *Stamina* arising from the inner Surface of the *Petalon*; when the *Flower* decays, this *Perianthium* becomes a *Capsula* or *Pericarpium*, to contain 4 naked Seeds, which soon drop off when ripe. The Disposition of their *Flowers* is sometimes in a long Spike, when thick set, and surround the upper Part of the *Stalk* and *Branches*, if there be any. They are sometimes regularly dispos'd into several Rows without *Pedicles* or *Foot-stalks*, have no conspicuous Interval, and then they still retain the Name of *Spicati*; but when these Intervals are larger, or these regular Circles are at a greater Distance from each other, then they are said to be *Verticillati*, *verticillated* or whorled; but when the *Intervals* are but at a moderate Distance, they are called *Spicati* & *Verticillati*. The Colour of the *Flowers* is often simple, a blue, red,

red, an *incarnate*, *obsolete red* or *blue*, sometimes a Variation into a *white*, and sometimes a *yellow*, but never any artful Variation.

This Betony is *Spicated and Verticillated*, with a *Lip Flower*, whose upper Lip is upright, arch'd, and *bifid*, the lower divided into three Parts, the Middle being largest.

The Description.

Betony has a knobby and hard *Root*, emitting several small white *Fibres*, the *Leaves* upon long *Pedicles*, spread forth on the Ground an Inch broad, 2 Inches long, oval and obtuse, crenated or denticulated; each of the *Crenæ* or Dentations round the Edges are blunt and obtuse; also amidst of these Leaves arises the unbranch'd four-square flowering Stem, about 1 Foot high, with the Leaves by Pairs at certain Distances, having first a *Verticilla*, or Whorle of thick set *Lip Flowers*, whose upper *Lip* is upright, the lower tripartite and dependent, the Middle largest, of a blue Colour, but sometimes pure white, with four *Stamina*, one *Stylus*, all of the same Colour, a *tubulous Perianthium* divided into five unequal pointed *Segments*. The *Stylus* is surrounded by four Embryons, which become so many round brown naked Seeds.

Virtues and Uses.

Betony has been a *Plant* much esteem'd by the Antients for its extraordinary Virtues, tho' it be not much requir'd for modern Use: It consists of tenuous and subtile *Particles*, is esteem'd a potent *Cephalick*, good in all Nervine Affections, for Diseases of the *Breast*, *discutient*, *carminative*, and *aperient*, raises the *Wind*, good in the *Cholick*, provokes *Urine* and the *Menses*: some use the simple and distill'd Water in *Cephalick Mixtures*. It enters the *Sp. Lavendulae. Aq. Peon. comp. Sp. Lumbricorum. Aq. cœlestis. Syr. de Artemis. de Betonica. de Erysim. Iv. Arthrit. de Philosella. Peon. comp. Raphani. de Stechade. de Symphito. Conserv. Beton. Pulv. Antilys. Ol. Exestrense. Ung. Nervinum. Empl. de Betonica.* A Tea of the *Leaves* is recommended for the *Head-Ach*, *Palsy*, *Sciatica*, *Gout*, *Jaundice*, and *Cholick*: Its esteem'd a good *Vulnerary*, and given in *Ptisans* for the Expectoration of *purulent Matter*. The *Empl. de Betonica* is frequently apply'd to the Head in a *Vertigo* or violent Pains of it; also to the *Coronal suture*, being mixt with *G. Tacamahaca* and *Caranna* in *Convulsions*, and to strengthen the Head when too open, in Children or in Infants. The *Conserve* of the *Flowers*, when drank with Milk warm from the Cow in *April* and *May*, is good in *Hætic* and *Consumptive Cases* for *Vapours*, and
in

in *Cephalick* Cafes. It enters *Cephalick* and *Nervine* Ingredients, to be infus'd in *Wine* or *Ale*. The green Leaves put in the Nostrils in a Morning, are excellent *Sternutatories*, causing a plentiful *Evacuation* of pituite and ferous Humours from the *Sinus* of the *Scull*, and clearing of the Nose and Head. It was vastly esteem'd in the Days of *Pliny*, who recommends it in *tussi*, *asthmate*, *ptysis* *Vetonicæ eclegma cum melle detur fabæ magnitudine*, *Plin. lib. 26. 11. ad Latera et pectoris dolores vetonicæ farina bibitur cum aq. callida*, *ibid. cap. 7. vetonicæ obulis tribus contra purulentas contraque cruentas excretiones*, *ibid. c. 5. Stomacho & dyspnææ medetur Vetonica pondo libra mellis attici semuncia ex aq. Callida quotidie bibentibus*, *ibid. c. 7. Quartanus Vetonicæ drachmam in aq. mulsa, lib. tribus*, *ibid. lib. 26. 11. bibitur in horroribus quæ omnes horrores coerces*, *ibid. Hydropicis vetonicæ drachmæ duæ in duobus cyathis vini aut mulsi Cruditates quæ nauseam faciunt digerit vetonica*, *ibid. c. 11. Tormina ventris celiacis in vino austero datur vetonica*, *ibid. lib. 26. c. 8. Icterus morbus Regius cum centauryo Vetonica*, *ibid. c. 12. Vesicæ malis contraque calculum auxilio est Vetonica*, *ibid. lib. 26. 8. &c.* Hence the *Italian* Proverb, when they would extol the Virtues of any Person, *Tot habet Virtutes quot Vetonica*.

It grows in Woods, Copices, in the Sides of Hedges of Pastures, and other shady Places. It's sometimes seen with a white Flower; it's seldom seen with more than one flowering Stem from the Root in the Fields, in Gardens it becomes more luxuriant.

Betonica Pauli, vide Anagallis.

XI. *Betula.*

Betula, C.B. 427. Theoph. J.B. 1. 8. 148. Raii Hist. 1410. Tournef. Instit. 588. Hist. des Plants 58. The Birch Tree.

The T R I B E.

This is one of the juliferous Trees, or *Flore a fructu remoto*, bearing Katkins distinct from the Fruit, on the same Tree, and often on the same Branch.

The Description.

The Tree is of a middle Stature, and sometimes only a Shrub, emitting many small and for the most part dependent Branches with a various Bark; while young it's darkish, after a Year or two the outer loose Skin is grayish and easily torn off. Afterwards it becomes more

more white both in Trunk and Branches, but the younger are still more duskyish ; both old and young have still these thin, loose, excite Membranes. The *Leaves* at first appear crumpled and crisped, of a pleasant odoriferous Smell in the Month of *May*, about the Bigness or rather less than those of the *Populus tremula* or *Asp*, of a pleasant shining Green, each supported by a proper *Foot-stalk*, and for the most part two, sometimes three together, proceed from the same Origine or Exit. The *Juli* or *Katkins* begin to appear in the Month of *April*, about half an Inch long, consisting of several small reddish *Leaves*, adherent to an *Axis medius*, each covering 5 or 6 long *Apices* upon *Stamina*, so short that they are scarce discernable. As the *Apices* ripen, the *Katkins* are lengthen'd, and the *Apices* with their covering *Leaves* are drawn to a greater Distance from each other. The *Apices* are yellow, and sometimes purplish. The *scaly Cone*, as it may be call'd, appears at the same Time in different Places, for the most part on the same Branch, not unlike the *Katkins*, consisting of several *Scales*, endow'd at first with 5 or 6 fine *Scarlet Threads* or *Thrums*, at whose *Root* is the *Embryon* lodg'd, which afterwards acquires a *cylindrical* Form, each of the *Scales* strictly encloses one single winged *Seed*. It grows spontaneously in most Woods and Coppices, chiefly in moist and shady Places.

Virtues and Uses.

The *Timber* or *Wood* of it is very profitable for divers kind of Mechanical Uses. The thin loose outer *Rind* of this Bark is said by some to have been the first or original *Papyrus* on which they wrote ; and *Tragus* reports, that in his Time there was a Book still extant in a *Library* in *Switzerland*, made of this Kind of Paper.

This Tree affords a notable Experiment to prove the *Circulation* of the *Sap* in *Plants*, by its plentiful Ascent from the Earth in the Spring, when the nutritive Particles are set in a more than ordinary Motion by the Heat of the Sun ; for if you bore or pierce it near the *Root*, and place a Spigget in it, there will flow out some Pints in a Day. The Honourable Lord Colvil, valuable for his superior Knowledge in *Musick*, *Botany*, and other Parts of *Natural History*, most of the *Liberal Sciences* and *Belles Lettres*, being desirous to have some of it, understanding the Trees of a Wood in *Scotland*, near to him, which abounded with that Kind, was to be fell'd or cut down, being allow'd to draw what Quantity he pleas'd, he got as much as made near a Hoghead of Birch Wine, of which I have drank. It tasted as delicious as Muscade, and was as intoxicating as the strongest Mountain Wine. His Method was to evaporate near one Third over a gentle Fire,

Fire, then to ferment it with a proportional Quantity of Sugar. This plainly shews the Sap must circulate; for the Time of its plentiful running is in *April*, when the *annual Surface* has not appear'd, and before the Buds are extended or spread forth into *Leaves*: So that this superabundant Sap, must either be evaporated, there not being sufficient *Sap Vessels* to contain it all as yet; or return by the *venal Sap Vessels* to the *Root*; and thus by maintaining a perpetual *Circulation*, it's by Degrees attenuated and prepared to push forth and nourish the *annual Surface*; for no sooner are the *Leaves*, *Katkins*, and *Cylindrical Fruit* stretcht forth to the full Bigness, than this Sap ceases to flow out at the *Perforation*. But this does not favour Mr. *Bradley's* Opinion, 'That the Sap thickens, acquires the Consistence of a Gum, stagnates, cannot move in the Winter, and becoming more fluid, begins to circulate in the Spring.' Whereas the true Reason is, the Sap which in *Winter* nourished the *Wood* and *Bark*, is diverted in the *Spring*, and then flows more plentifully to nourish the *annual Surface*; the more plentiful Ascent of nutritive Particles is caused by the Heat of the Sun, after it begins to approach nearer to our Horizon, as is observ'd. The Honourable and Curious *Paul Dudley*, Esq; and R. S. S. was pleas'd to present to the *Royal Society* a Quantity of Sugar from the Juice of the *Maple*, drawn after the same Manner, and has since confirm'd the same by another Letter. I'm perswaded, if any shall have an Opportunity to try this Experiment, by a gentle Evaporation of the Juice of this Tree, then placing it in a cold Cellar, to produce the Essential Salt, it would be as good a Sugar as the other, and in as great a Quantity; for as common Sugar is only the *Essential Salt* of the *Sugar Cane*, and this *Birch Tree*, when new drawn, tastes very sweet, like the *Mustum* of Wine, I am ready to believe it would likewise make good Sugar. Its Taste is also Balsamick, and somewhat subastringent, by which it's recommended as good in *Spitting of Blood*, *Hætic* and *Consumptive Cases*, by correcting of the *Acrimony* of the *Blood*, to any who have the Opportunity to use it. It's also said to be diuretick.

Bislingua, vide *Bruscus*.

XII. *Bistorta*.

Bistorta maj. Radice minus intorta. C. B. P. 192. Tournef. Instit. 511. Moris. Hist. 2. 585. *major*, Raii Hist. 189. Synops. Stirp. Brit. 59. *major rugosioribus foliis*, J. B. 3. 31. *Bistorta*, Dod. Pempt. 333. *Bistort* or *Snakeweed*.

The T R I B E.

This is one of the *Apetalous Class*, by the unanimous Consent of *Authors*, and may be rightly join'd with the *Lapathum* and *Acetosa Kind*, by some Resemblance in the Leaf, and by the *three square Seed*.

The Description.

It has an hard knobby *Root*, about the Bigness of one's Finger, crooked or bended inwards, enlarging or multiplying yearly, and running; emitting small *Fibres*. From below these in the Spring, arise several Leaves upon Footstalks, stiff, smooth, dark green above, and lighter below, of the Shape of those of a *Dock*, but not so large; from whose Middle arises a small smooth jointed Stalk, sometimes a Foot high, supporting proportionally big reddish *Flowers*, thick set in a gross Spike, like those of *Persicaria*, with a *monophyllous* double *Calix*, one surrounding the other, plac'd upon a short *Foot-stalk*, and enclosing a *monopetalous Flower*, deeply divided into 5 *Segments*, endow'd with 8 *Stamina*, with their Apices: In the Center is placed the Embryo, (with a *triple Stylus*) which becomes a *three square Seed*, ripening within the *Flower* and *Calix*.

N. B. Though this has a distinct *Monopetalous Flower* from the *Calix*, yet it is justly esteem'd *Apetalous*, because the *Flower* does not decay first and fall off; for *Flos non deciduus*, and *Semine plerumque singulari in Capsula quæ floris Calix fuit maturescente*, is the chief Character of an *Apetalous Flower*, according to *Tournefort*.

Virtues and Uses.

This is one of the most potent astringent Vegetables in the *dispensatory Catalogue*. Its *Root* is only us'd in *Powders*, *Decoctions*, *Infusions*, to stop *Hemoragies*, *Fluxes*, *Spitting of Blood*, and for the *fluxus Menstruorum nimius* and *fluor albus*, externally it enters in *Vulnerary Lotions*, for *ichorous* and *sanies Ulcers*, and for curbing proud Flesh. In *Fomentation* to allay *Inflammations*, and in *Collyriums* for *Blood-shot Eyes*, and for *Rheums* and *Catarrhs*. It enters *Syr. de Pilosella*, *Diascordium*, *Astringent Plaisters* and *Oyntments* in general; whatever is prescrib'd as a potent *Astringent*, this may be an Ingredient either to be given inwardly, or externally apply'd.

Blitum, vide Atriplex.

Bonus

Bonus Henricus, vide *Atriplex*.

XIII. *Anchusa* & *Buglossum*.

The T R I B E.

The same Affinity seems betwixt the *Asperifoliae* or rough leav'd Plants, and these call'd *Labiatae* or lipp'd, from the Figure and Verticillate, whorl'd and spiked Disposition of the Flowers, as there is betwixt tetrapetalous, call'd by Tournefort *Cruciatae*, Cross-like Flowers, with plain similar Petals; and the *Papilionaceae*, Pea Bloom, with four dissimilar Petals of various Figures; for as both these Classes with Tetrapetalous Plants have *Siliquae*, Pods, and *Siliculæ*, little Pods, as is observ'd when discoursing of *Alliaria*; so the rough-leav'd and verticillate and spiked have both monopetalous Flowers, plain and uniform in the rough leav'd Kind, or dissimilar and difform in their Segments, as in the lip flower'd, verticillate Plants. But both Classes are succeeded by four naked Embryons, surrounding a Pointal, which become so many naked Seeds, contain'd in an open Seed Vessel, which was formerly the Em-palement of the Flower, and which is deeply divided into five equal Segments in the one, and superficially divided into five unequal ones in the other.

But the *Keitelov*, the Mark of Distinction, does not lie either in the Flower and Fruit, as some of our Methodizers would have it, or in the Fruit and Flower, as it has pleased others; but from other Parts of the Plant, which are the genuine Characters of such and such a Class, without either having recourse to the Flowering or Fructification. v. g. The Character of the *Asperifoliae* is, that they have alternate rough simple Leaves, and a Flower divided into 5 Segments; but the being lipp'd or not, is of no Moment; for *Echium* cannot be separated from its Congeners, for having a lipp'd Flower, since it has alternate rough Leaves; tho' Dr. Knaut, having only Regard to the Flower, would have it chas'd from its Brethren, and expell'd that Family, when it can only be a Bastard in any other: And *Mentha*, *Pulegium*, *Thymus*, *Majorana*, and several others of the most noted Lip Flowers, must be driven from that Class, because they have neither labiated, nor galeated Flowers, but divided in the Border into four equal Segments; but as they are smooth leav'd, their Leaves arise by Pairs, and not alternate, and as they are whorl'd and spiked, they may justly have the Preference among their Brethren, and therefore I heartily join with Mr. Ray in this, that he will not be confin'd to any particular Part of the Plant,
from

from whence its *Characteristicks* are to be taken, but to whatever Part is most determinate, and the least subject to Variation.

1. *Anchusa puniceis floribus*, C. B. P. 255. *Monspeliiana*, J. B. 3. 33. 584. Raii Hist. 496. *Buglossum minus perenne*, Hist. Oxon. 3. 438. *Radice rubra*, sive *Anchusa vulgarior puniceis floribus* Tournef. 134. *Anchusa parva* Lob. Icon. 578. Alkanet.

2. *Buglossum Angustif. maj. flore caeruleo*, C. B. P. 256. Tournef. vulg. maj. J. B. 3. 33. 578. *Angustifol.* Lob. Icon. 576. Raii Hist. 493. *perenne maj. sativum*. Hist. Oxon. 3. 437. Garden Bugloss.

3. *Buglossum sylv.* C. B. P. Tournef. Instit. Hist. des Plants 62. *Echium Fuchsii*, sive *Borrago sylv.* J. B. 3. 33. 581. *Bugloss. sylv.* Dod. Pempt. 628. Raii Hist. Synopf. Stirp. Brit. 119. Hist. Ox. *Echioides Riv. Irr. mon.* Wild Bugloss.

The Description.

1. *Alkanet* has a long, simple, deep red, pretty gross *Root*; a streight, round, rough *Stalk*, about a Span or two high; *Flowers* upon the upper Part of the *Stalk* of a deep Purple, monopetalous, divided into 5 blunt *Segments*, a little tubulous and hollow in the Center; from whence arise 5 streight *Chives*, surrounding the *Pointal*, which arises from the *Empalement*, and is supported by 4 *Embryons*, which, upon ripening, become so many oblong ash-colour'd *Seeds*, like a Viper's Head, contain'd in a five-leav'd *Empalement*, which now becomes an open *Seed Vessel*. The *Leaves* are narrow, about one Inch or two Inches long, and pointed, very rough and alternate.

2. *Garden Bugloss* has a carnos, simple, pretty thick and gross perennial *Root*. The rough and round *Stalk* arises 2, 3, or 4 Foot high. The alternate *Leaves* are very rough, large, oblong, and pointed. The *Flowers* larger, of a lighter Blue, the *Segments*, *Empalement*, and *Seed*, the same with the former.

3. *Wild Bugloss* is less than the *Alkanet*, has *Leaves* like it, but rougher and more whitish, a little sinuated. Those in the upper Part arising from the *Stalk*, without Foot-stalks; from whose Bosom the *Flowers*, upon very short *Foot-stalks*, proceed; are broad at the Base, short, and as it were triangular. The light blue *Flowers* are very small, the *Pointal* small also, and hid. The *Seeds* ripen in the *Empalement*, which becomes the open *Seed Vessel* with the others. The tubulous Part of the *Flower* being bent in the Middle like a Knee, renders this Plant very distinguishable from all the rest of the Tribe.

XIV. *Borrage*.

Borrage fl. ceruleis, J. B. 3. 33. 574. Tournef. 133. Raii Hist. 493. *Buglossum latifolium Borrage*, C. B. P. 256. *Buglossum sive Borrage* Math. 1. 786. *Borrage hortens.* Hist. Oxon. 3. 437. Burrage.

The Description.

Burrage is an annual Plant, with a more fibrous Root, more branch'd and spreading forth, has rough, alternate Leaves, much broader and blunter. The Flowers larger, very open, divided into 5 sharp pointed Segments of a pale Blue, with 5 small flat (as it were) Flower-Leaves, whitish, bifid, divided at the Top, surrounded at the Bottom by other 5 small straight sharp Segments, among which are plac'd the 5 Chives. The Empalement is deeply divided into 5 pointed Leaves with 4 Embryons in the Center, surrounding the Pointal, and adhering to a fungous Placenta. The Flower soon separates, and quickly falls off, when the Leaves of the Empalement immediately contracting, unite together to guard the enclosed Seeds, compared to the Head of a Viper, which, upon their ripening, do also soon fall off.

Garden Bugloss, Burrage and Alkanet, are cultivated and propagated in the British Gardens. Wild Bugloss grows in the Corn Fields, in neglected Gardens, and Way Sides.

Virtues and Uses.

As these *Asperifoliae* agree in their Characters, so for the most Part in their Virtues. They are all of what they call a cooling Nature, more or less astringent; some viscid, and others soporifick and anodyne. Burrage and Bugloss Flowers are with the Violet Flowers called *Flores Cordiales*, by the Dispensatories. The Ancients who inhabited the hotter Regions, esteem'd them as such, because, whatever there, calmed the Motion of the Blood, and prevented a too violent Dispendium of Spirits, was by them esteem'd a Cordial, refreshing the Body, and relieving it from that Lassitude and Weariedness, the usual Consequence of sultry hot Weather: Whereas, in these colder Climates, whatever raises and exalts the Spirits, and quickens the Circulation of the Blood, is the rather to be esteem'd a Cordial, as rendering the Body more active, and making the Animal Faculties be more vigorously and lively exerted; so that the Use of the Flowers of Burrage and Bugloss dry'd is chiefly in cooling Ptisanes, and the distill'd Water of Burrage in

cooling *Juleps* in hot burning Fevers, to calm and quiet the *Blood* when too violently agitated, and the *Spirits* like to be too speedily exhausted. Some use the tender *Leaves* of *Borraga* in cold *Sallads*: They put them in *Wine* and cold *Tankards*, as cooling and refreshing in the Heat of Summer. The *Conserve* of the *Leaves* of *Borraga* is also kept in the Shops, as one of the *Ingredients* in *Bolus's* and *Electuaries*. *Borraga* and *Bugloss*, whether Garden or wild, may be promiscuously used, but the *wild*, tho' the weaker and more common, is more frequently taken. I would rather chuse the *Garden*. *Alkanet* is of the same Virtues, and its *Root* is only kept in the Shops, because of the *Red Tincture* the *Bark* or outer Coat of its *Root* affords. Its chief Use is to give a *Red Tincture* to the Oil of *Roses*: For as there are but few Oils, when infus'd, insolated, or boil'd with a *Plant*, will be *tinctur'd* with any Colour from it, unless it be a Green, especially the *Rose Flower Leaves*; so the Apothecaries are forced to use the Stratagem of mixing some of the dry'd *Roots* of *Alkanet* among the *Roses*, to give the Oil a *Red Tincture*, otherwise the Buyer will not take it. Nor does it seem to be improper, since by its moderate *Astringency*, it may be assisting to the Virtues of the *Rose Leaves*.

Botrys, vide *Atriplex*.

XV. *Brassica Sativa*.

Brassica rubra, C. B. P. III. Tournef. Instit. 219. T. 106. Tabern. Icones 396. *rubra vulgaris*, J. B. 2. 21. 880. Raii Hist. 196. *sativa rubra aperta laevis*, Moris. Hist. 2. 207. Common red Cole, or Colwort.

The T R I B E.

This noted *Plant* is by all Authors reckon'd among the *Tetrapetalæ filiquosæ*, call'd *Flore Cruciformi donatæ* by Tournefort, with a long Cylindrical Pod, divided into two Pouches.

The Description.

From an Heart-like Pair of *Seed Leaves*, common to most Part of the *Tetrapetalous* Class, its second Leaves arise less, somewhat broad and oval, afterwards they encrease by Degrees 'till they are very large, roundish, of a smooth blueish Colour, thick set on the Top of a gross round marrowy *Stalk* the first Year: The second Season, this *Stalk* becomes smaller, arises two or three Foot high, marrowy, tender and

and branch'd. The yellow *Tetrapetalous Flowers*, larger than is usual to the *Class*, but small in Proportion to the *Plant*, are plac'd in a long thin *Spike*, on the Top of the *Stalk* and *Branches*, to which succeed small round *Cylindrical Pods*, about one Inch long, divided into two *Pouches*, containing small round *Seeds* of a *bitterish*, not very hot Taste.

The *Colewort* of the *Dispensatory*, is the *Brassica rubra aperta* of *Morison*, a reddish blue *Leaf*, and gross, round, red alternate *Veins* proceeding from the *Midrib*, always keeping open and never shutting at the Heart. It were needless to name the various *Coleworts* and *Cabbages* made Use of in the Kitchen, and to be seen in the Kitchen-Gardens. The chief of which, for common Use are the *open Colewort*, with red and white *Veins*. These in some Places are much us'd for feeding of Cows in the Winter, also to fatten *Bullocks*; and the common Sort of People make a Broth of them, mixing a little Oatmeal cut or uncut, and eat them for daily Food. The *White Cabbage* is usually boild and eat with Beef and other *Flesh Meats*. The *red Dutch Cabbages* are cut down very fine in *Holland*, and eat for a cold Sallad, with Vineger and Oil; here they boil them as they do the white: But of all the three, the *Savoys* are the most tender, but do not so well endure the Winter's Frost. The *Colyflower* is the most delicious of all the *Coleworts*.

Virtues and Uses.

Colewort Leaves are vulnerary, and subastringent; the Leaf of a red Colewort, (though all the others are of the same Virtue) being depriv'd of the tender outward Membrane, and apply'd to a green Wound, it becomes a good Digestive; some also apply it thus prepar'd, to digest and keep Issues open. It is also apply'd, being rubb'd over with a little fresh Butter, to keep open Blisters, after the Application of an Epispastick; but their most frequent Use is in the Kitchen, as has been observ'd, where the Sprouts or tender Shoots of these open Coleworts, as well as the other Cabbages, are much us'd for boild Sallads, with other Greens, such as *Beets*, *Spinage*, &c. in the Spring Season. They are cultivated in the Gardens, and no where Indigenous in *Britain*. This open *Colewort*, with the *Rape*, and others of the same Kind, are sown in the Fields for the *Seeds*, of which they make what is call'd the *Rape Oil*. Mr. *Miller's* noted Experiment in *Transact.* 369. about the Mongrels, by sowing of several Kinds of Cabbages near to each other, is a powerful Argument to prove the
Sexes.

Sexes of Plants, and their Impregnation by *Effluvia*, as I have taken Notice elsewhere.

XVI. *Brassica Marina* f. *soldanella*.

Brassica Marina f. *Soldanella*, J. B. 2. 15. 166. *Soldanella marit. minor*, C. B. P. 295. Raii Hist. 726. *Convolvulus marit. noster rotundifolius*, Moris. Hist. 2. 11. Tournef. Instit. 82. Boerh. Index 247. *Sea Bindweed*, falsely *Sea Colewort*, by some call'd *Scottish Sea Scurvy-grass*.

The T R I B E.

This is the only *Indigenous Convolvulus* of the *Dispensatory*, whose Characters are to have alternate *Leaves*, climbing *Stalks*, a milky *Juice*, a two-leav'd *Perianthium* or *Empalement*, with a *Monopetalous Bell Flower*, tubulous in the Bottom, and spread forth in the Top with 5 Holes in the Bottom, 5 *Stamina*, and a forked *Stylus*, to which succeeds a *subrotund membranous Fruit* divided into three *Pouches* with corner'd *Seeds*.

The Description.

This *Convolvulus* has a creeping *Root* slender reddish *Stalks* running two or three Foot on the Ground (not climbing unless supported by a Pole) the Bottom alternate *Leaves* are round like those of *Dutch Scurvy-Grass*, the others more pointed, like those of *Aristolochia*, upon long *Foot-stalks* of a dark Green, with a milky *Juice*. The *Flowers* are large, reddish, of the Bigness of the *Convolvulus maj. albus*, in a two-leav'd tubulous *Calix*, to which succeed round membranous *Seed Vessels*, divided into three *Pouches*, each containing two *Seeds*.

It grows frequently on the *Sea Coasts*, I have seen it near to *Fifeness* in *Scotland*, and on the sandy *Sea Coast* at *Yarmouth*, where by the Largeness and Brightness of the Flower it appears at a great Distance, when by its lower Stature it's scarce to be discern'd by the *Leaf*.

Virtues and Uses.

This is a pregnant Instance of the Affinity betwixt the Characters and Virtues of a Plant, Herman says, *Vegetabilia quæ simili inter se gaudent fructificatione, & proinde generis Societate conjunguntur, ut plurimum inter se convenire principiis activis atque virtute differente duntaxat secundum majus & minus prout sapor vel odor est intensior vel remissior pervulgatum est Botanicorum axioma; quod experientia non omnino repugnat:*
Inter

inter alia innumera testes sunt Scammonium, Jallapa, Mechoacana, Soldanella ceteraq; hujus Familiae. 'Tis here to be noted, that the true *Species* which affords the *Radix Jallapæ*, was not known even to *Herman* himself, for he does not condescend upon the particular *Species*, as a *Convolvulus*, nor does he take Notice that it's a *Species* of the *Mirabilis Peruviana*. Tho' it do's come very near to a *Convolvulus*, with the Difference of a *naked Calix*, on which the *Flower* is fix'd; an *Unicapsular Fruit*, by which it's *Monocarpos* or *Monangio-Monospermos*, and that it's neither *scandent* nor *Lactescent* but the *Flower* resembles very much that of a *Convolvulus*, but of this elsewhere.

Soldanella is esteem'd by all a violent *Purgative* and *Emetick*, is chiefly recommended in *Hydropical Cases* as are most of the *Convolvuli*; but by its *Acrimony*, which is noxious to the *Stomach*, it's seldom prescrib'd, and therefore of little Use in the Shops.

XVII. *Bruscus*.

Ruscus sive Bruscus, Ger. C. B. 470. J. B. I. 579. Hort. Lugd. Bat. 530. Moris. Hist. 3. 540. *Myrtifol. aculatus*, Tournef. Instit. 79. Hist. des Plantes 528. *Oxymyr sine*, Raii Hist. 664. Dod. Pempt. 744. *Butchers-Broom*.

XVIII. *Hypoglossum*.

Ruscus Latif. fructu folio innascente, Tournef. Instit. *Laurus Alexandrina fructu pediculo insidente*, C. B. 304. *Bonifacia seu Bislingua*, J. B. I. 575. *Hypoglossum Lauro Hypoglossum mas. et fem.* Raii Hist. 664. *Laurus Alexandrina folii medio Ligula insidente*, Moris. Hist. 3. 540. *Horse Tongue*, or *Tongue upon Tongue*.

XIX. *Laurus Alexandrina*.

Ruscus Angustifol. fructu folio innascente, Tournef. Instit. *Laurus Alexandrina fructu folio insidente*, C. B. 305. Moris. Hist. 3. 541. *Laurus Alexandrina*, J. B. I. 574. Raii Hist. 663. *Laurel of Alexandria*.

The TRIBE.

The *Bacciferous Plants* are generally divided into *Baccifera non scandentes* & *scandentes*, and *Morison* not unfitly distinguishes betwixt the *Semper virentes*, as in these three, which are otherwise call'd, *Επιευλόγητοι*, and the *non scandentes foliis deciduis*, as in the *Solana* formerly treated on. *Tournefort* places them among the *Flores Campaniformes*,

and most *Authors* bring them in the Vicinity to *Christophoriana* and *Polygonatum*. They may be also called *Epiphyllispermi*, but with this Distinction from the *Herbæ Capillares*, that the one is *ab Anteriori*, and the other *ex adversa folii parte*.

The Description.

XVII. *Bruscus* or *Butchers Broom*, has hard white *Roots*, sending several large Branches from one Head, like the *Roots* of *Asparagus*, from whence arise several green, hard, tough, striated, dark-green *Stalks*, much branch'd, about the Bigness of a Goose Quill, about 1 or 2 Feet high, thick set with stiff, smooth, dark-green, Myrtle-like *Leaves*, somewhat prickly at the Point without *Foot-stalks*, from whose Middle and upper Part arises a small Flower like a big Pin's Head, at first Appearance expanded into a globulous monopetalous whitish Flower, surrounded by a *Perianthium*, divided into several Segments, with several purplish *Stamina* in the Middle, to which succeeds a red round Berry, bigger than that of *Asparagus*, containing 1 or 2 Seeds. Mr. Ray is in a Doubt whether this may be called an Herb or Shrub, I think the latter, because the *Gemmae* of the new Leaves are to be seen before the old ones drop, as in other *Evergreens*, but since the two following have not the same Appearance, all may go together among the Herbs.

This is an *Indigenous Plant*, and has been observ'd by Mr. Ray in the Parish of *Blacknotly*, where he liv'd; near to *Reading*, in Woods of *Berkshire* and *Oxfordshire*, and pretty frequent near the Heaths near *Woolwich*.

XVIII. *Hypoglossum*, *Horse Tongue*, or *Tongue upon Tongue*, has an hard whitish *Root*, with several knobby Heads, whence are emitted several *Fibres* spread forth in the Ground. The *Stalks* arise 1 Foot high, round, green, crested and tough, adorn'd with several hard stiff, dark-green, pointed, nervous *Leaves*, about an Inch broad, in the Middle of each Leaf arises tending obliquely forward, another smaller Leaf or *Tongue*, whence its Name; from whose Bosom proceeds a small Flower, like that of *Ruscus*, to which succeeds a round or oval red Berry, larger than that of *Asparagus*.

XIX. *Laurel* of *Alexandria* has a *Root* like that of the former, from whence proceed *Stalks* like it, but much smaller, streight, about 1 Foot high: Its *Leaves* are almost like those of the following, being pointed, but broader, softer and rounder, and of a lighter green, for the most part alternate; but sometimes 2, 3 or more will proceed radiated from the *Stalk*. The small Lineaments of the Leaf or Tongue appear

pear sometimes on the upper and sometimes on the lower Side of the Leaf, from whose Bosom arises one or more small half Inch *Foot-stalks*, supporting a small *Flower* like the rest, to which succeeds a red round *Berry*, for the most part containing one stony hard Seed like the Eye of a *Fish*.

Virtues and Uses.

All these partake of the same Virtues according to their Notes and Characters, but the *Roots* of the *Bruscus* are most in Use; they make one of the *five* opening *Roots*, in the *Dispensatory*: It's very much recommended for the *Hydropsy*, *Cachexia*, *Jaundice*, and *Suppression* of *Urine*, also in *Scrophulous* Cases. It may also be given in *Broaths* and *Ptisans* along with *Parsley* and *Asparagus*, and may be an Ingredient in *aperitive medicate Infusions* for *Wine* or *Ale*. It enters the *Syr. de 5 Rad.* and *Syr. Raphani compositus*: Some prescribe the Seeds as an Ingredient in *Benedicta Laxativa*, but that's often omitted, because they are rare to be got; for it may be observ'd in general, that no Evergreens *fructify* frequently or bring their Fruit so often to Perfection, as they who have an annual Surface, which decays shortly after the Fruit or Seed is ripe.

XX. *Bryonia Alba.*

Bryonia alba sive aspera baccis rubris, C. B. 297. Tournef. Hist. des Plantes 249. *Alba*. Raii Hist. 659. Synops. Stirp. Brit. 146. *Alba sive aspera incana baccis rubris*, Moris. Hist. 2. 5. *Vitis alba* f. *Bryonia*, J. B. 2. 15. 143. White Bryony.

XXI. *Bryonia Nigra.*

Bryonia nigra. Tamus Racemosa flore minore luteo palléscente, Tournef. Instit. 102. Hist. des Plantes 536. *Bryonia levis sive nigra racemosa*, C. B. 297. Moris. Hist. 2. 5. *Vitis nigra quæ Tamus Plinii folio Cyclaminis*, J. B. 2. 15. 147. *Vitis Sylv.* Dod. pempt. 461. *Bryonia nig. sylv.* Raii. Hist. 660. Synops. Stirp. 536. Black Bryony.

The T R I B E.

These two, though they be near of *Kin*, yet they specifically differ from each other. They are class'd among the *monopetalous Bell-Flowers* by Tournefort, and among the *Baccifera scandentes*, by all other Authors. They are *flore a fructu remoto*, with others of the *scandent Tribe*,

Tribe, but in *diversis plantis*, for some Plants have only the Male Flowers, and others, the Hermaphrodite ones.

The Description.

XX. White Bryony has the *biggest* carnous *Root* of any of the *Herbaceous Race*, being according to the Time it has remain'd in one Place and Depth of the Soil, as big as one's Arm, and sometimes as the Leg, striking deep in the Ground with big *Fibres*, white, soft, pulpy, but not spongy, emitting in the Spring a great Number of weak infirm *Stalks*, by which it climbs to a great Height upon any Tree, or what else is near it, emitting *Tendrils* here and there to catch hold of any thing. The *Leaves* are broad, rough, whitish, *pentagonal* or *trigonal*, according to the Distance from the Root like those of *Hedera Arborea*: The *Flowers* from the Bosom of the alternate *Leaves* arise 3, 4, 5, or more together, from a common *Pedicle*, each upon a small proper *Foot-stalk*, yellowish-green, *monopetalous*, divided into five pointed *Segments*, surrounded by a quinquifid *Perianthium*, with 5 green *Stamina*, and their *yellow apices*, though I have often observ'd them in the *Male Flowers*, with only 3 *Stamina*, two of which were *bifid*, with 2 *apices*, and the 3 having only one *apex*. The *Hermaphrodite Flowers* are much less, more greenish, with a green quinquifid *Perianthium* closely adherent, and the *tuba* on the Center into 5 green *apices*, without any remarkable *farina*. This *Flower* is plac'd upon a very short small *Pedicle*, arising from the Top of a small *Spherical* or *oval green Embryo fructus*, which becomes a round or *oval* pulpy succulent *Berry* of the Bigness of a Pea, red when ripe, containing several oval *Seeds*. It often happens that the *Male Plant* grows at a great Distance from the *Hermaphrodite* one, for which *Pontedera* proposes it as one of the Examples against the *Sexes of Plants*, and in Favour of those he calls *barren Flowers*, of which I have discours'd at large elsewhere.

XXI. Black Bryony has also a long gross *Root*, not so big as the other, running deep in the Ground, not so soft: Its infirm *Stalks* climb very high, and thrust themselves round the *Trunks* and *Branches* of *Trees*, without any *Clavicle* or *Climbers*. The alternate *Leaves* upon very long *Pedicles*, are dark-green, smooth, shining, and angled, not unlike those of *Cyclamen* or the *Tree Ivy*, but less, *heart-like*, and pointed. The *Branches* or *Clusters of Flowers*, like the former, are small, greenish-yellow, *monopetalous*, deep divided into 6 *Segments*, with 6 *Stamina*, with their *Apices* without any *Perianthium*. In the *Hermaphrodite Flowers*, on the same *Plant* with the *Male*, but in different Places have a long green oval *Embryon* upon the Top of the *Pedicle*

dicle, terminating in another small short Pedicle, which supports the Flower, as in the former, with a trifid Tube in the Center. This Embryon becomes an oval, oblong, pulpy, dark red Berry full of Seeds.

Both of these *Bryonies* grow at the *Roots* of *Hedges*, but the *white* is the far more frequent. Some lascivious Persons use to take the gross *Root*, and make obscene Figures, representing Human Bodies of both *Sexes*, and exposing them for Monsters, which they sell and dispose of for what they call *Mandrakes*.

Virtues and Uses.

The *Root* of both *Bryonies* are most in use, but the *white* more frequent. It consists of *tenuous* and *subtile* Particles, mixt with *acrimonious Salts*. It's recommended as a potent *Antihysterical*, good in the *Dropsy*, *Gout*, and *Rheumatisms*. The dry'd *Root* is kept in the *Shops*, and is a frequent Ingredient in *Medicate Infusions* for *Wine* or *Ale*, in the *Menstruorum obstructio*, and other *Hysterical* and *Hydropical* Cases. It's said to be purgative, but I could never observe its Effect that Way. I look upon it to be a good *Diuretic*, and not a bad *Febrifuge*. The *Facula* is made of it, by drawing of the *Juice*, and suffering it to be evaporated by the Heat of the Sun. The *Facula* or Impalpable Powder, which subsides and remains in the Bottom of the Vessel, is given with good Success in *Hysterical* Cases, along with *Coral. rub. pulv. Castor. Sal. Volat. succini*, and *Ol. Rutæ. Aq. Bryon. comp.* is prescrib'd in most *Hysterical Mixtures*, *Cordials* and *Juleps*. The *Roots* of *Black Bryony* are not so frequently us'd; they are said to be good *Diuretics* and *Antihysterics*, but seldom kept in the *Shops*.

XXII. Bugula.

Bugula, Dod. Pempt. 135. Tournef. Instit. Hist. des Plants 321. *Sylvatica vulg. cærulea*, Moris. Hist. 3. 391. Raii Hist. 575. Synopf. Stirp. Brit. 133. *Consolida media quibusdam Bugula*, J. B. 3. 30. 340. *Consolida media perennis cærulea*, C. B. 260. Hort. Lugd. Bat. 172. Hort. Edinb. 91. *Common Bugle*.

The T R I B E.

This is the first *unilabiated* or *one lipp'd Plant* we met with, whose *Character* is, that the lower Lip is dependent, and for the most part divided in three blunt Portions, the middle largest and *bifid*, with 4
Y y
Stamina

Stamina and their *Apices* plac'd parallel and ascendent, which being more protuberant, serve instead of the *upper Lip*. There are but few of this *Sort*, and those chiefly of the same *Virtues*, as shall be shewn.

The Description.

This has a small fibrous *Root*, sending forth several jointed round *Stolones* or Shoots above Ground, emitting *Fibres* at each joint, which propagate the *Species*. Its lower *Leaves* upon long *Foot-stalks* are dark Green, or Purplish, oblong and oval, not unlike the *Anagallis aquat.* a little *crenated*. The square *Stalks* arise near half a Foot, a little rough, blueish, sending forth the *Leaves* by thin set Pairs, the *Flowers* are plac'd in a pretty gross Spike, or rather divided into *Whorles* by Intervals, with a smaller Pair of *Leaves* at the Bottom of each *Whorle*, dark blue, large in Proportion to *Plants* of that Class, *one lipp'd*, with 4 *Stamina* supplying the *upper* one, to which succeed four *Seeds*. The whole when cultivated is a bushy low *Plant*, with the *Stalks* gross, in Proportion, streight and thick set. It grows frequent in Meadows and Pastures.

Virtues and Uses.

This is an Instance where not only *Plants* of a general *Character*, but even with particular *distinctive Notes*, have a Resemblance in their *Virtues*; for tho' *Polium* and *Scordium* and *Scorodonia* have their *Particles* more attenuating than their *Congeners*, yet all of the *unilabiated Plants* partake of greater *Astringency*, and are less attenuating than most of the *bilabiated*. This is such an *Astringent*, that it's call'd *Consolida media*, but it's less viscid and more deterfive and penetrating, than the *Asperifoliae*; as *Symphytum maj.* and *Pulmonaria*; for it's not only recommended in *Ptisans*, with other *Pectorals* in *Consumptive* and *Hectic Cases*, but also is much esteem'd as an *Aperient*, *diuretic* and *deobstruent*, and prescrib'd where *Obstructions* in the *Viscera* and *Liver* are suspected. It enters the *Decoctum Traumaticum* of the *Old Dispensatory*.

XXIII. Bupthalmum.

Bupthalmum vulg. *Chrysanthemo* Congener Clus. Hist. 332. Tournef. Instit. 495. *Tanaceti min. fol.* C. B. 134. *Chrysanthemi Tanaceti minoris fol.* Hort. Lugd. Bat. 145. *Chamamelum Chrysanthemum quorundam*, J. B. 3. 26. 122. *Bupthalm. vulg.* Raii Hist. 341. *Chrysanthemum perenne brevioribus & incanis foliis Tanaceti instar alatis*, Moris. Hist. 3. 20. Ox Eye.
The

The *TRIBE*.

This is another of the *Corymbifera Radiata*, whose large yellow Disk, with not so deep a Ray as that of the *Leucanthemum* or *Bellis maj.* has obtain'd to it the Name of *Ox Eye*.

The Description.

This Plant has a hard fibrous *Root*, with several small round whitish *Stalks*, one or two Foot high. The *Leaves* upon the *Stalks*, especially the *Branches*, are whitish, hoary or downy, *pennated*, and deep divided, like those of *Milfoil*, or rather *Tansy*, but shorter, of a *Camomile Smell*. The single *Flowers* on the Top of each *Branch* are large, *radiated*, like those of *Chrysanthemum*, with long sharp *Apices* in the *Discus*, and a short *Corona*. The *Empalement* is downy and scaly, small, oblong solid *Seeds*, with other *Corymbiferous Plants*, observ'd by Mr. Ray, on the River *Tees*, near *Sogburn* in the *Bishoprick of Durham*.

It's seldom us'd in *Physick*. It seems to have been introduc'd into the *Dispensatory Catalogue* by *Dioscorides*. By the *Taste* and *Smell* it may be a *Discutient* and *Vermifuge* with most of the other *Corymbifera*, and may be an *Ingredient* in *Fomentations*.

XXIV. *Bursa pastoris*.

Bursa pastoris major fol. sinuato, C. B. 108. Tournef. Instit. 216. T. 103. Hist. des Plants 11. *Pastoria* J. B. 2. 22. 936. *Pastoria Bursa*, Dod. Pempt. 103. *maj. Capsula cordata fol. laciniatis*, Moris. Hist. 2. 304. *Thlaspi fatuum Bursa pastoris dictum*, Raii Hist. 838. Synopf. Stirp. Brit. 176. Shepherd's Purse.

The *TRIBE*.

This is a noted Plant among the *Tetrapetalæ filiquosæ*, with a flat *Pod*, upon which Account it's not improperly call'd *Thlaspi fatuum* by Mr. Ray.

The Description.

Shepherd's Purse has an hard white annual fibrous *Root*, large, scollop'd or *slasht bottom Leaves* lying on the Ground, an hard, small, round, somewhat rough, much branched *Stalk*, adorn'd with long narrow pointed undivided *Leaves*, supporting small white *tetrapetalous Flowers*,

Flowers, to which succeed triangular *Flat Pods*, with the acute Angle towards the *Foot-stalks*, and the Base at the Extremity not unfitly said to be *Triangulum Isocetes inversum quasi referens*, divided into two *Pouches*, and fill'd with small round *Seeds*. It's very common in Gardens, among Rubbish, and on Banks and Walls.

There are some who add to this, *Bursa pastoris minor loculis longis* for the *Paronychia Offic.* but I rather chuse the *Paronychia rutaceo fol.* called *Sedum minus Tridactylites tectorum*, for which see *Sedum*.

Virtues and Uses.

This is esteem'd the greatest Astringent among all the *Tetrapetalous Tribe*, neither Herb nor Seeds have that acrimonious and hot Taste incident to the rest of that *Class*. It's therefore call'd *fatuum* by Mr. Ray; it's recommended for *spitting of Blood*, *Vulnerary Cases* in the *Menstruorum fluxus nimius*, but is not frequently prescrib'd.

XXV. Buxus.

Buxus Arborescens, C. B. 472. *Buxus* J. B. 1. 4. 496. Raii Hist. 1693. Tournef. Instit. 578. Boer. Ind. 472. Dod. Pempt. 782. The Box Tree.

The T R I B E.

Mr. Ray classes this Tree among the *Arbores fructu sicco*. But Tournefort, upon a more strict Observation, has discover'd that it's *flore a fructu remoto in aliis ejusdem plantæ locis*. It is said by Boerhave to have an *apetalous Flower*, with a gross *tetraphyllous Calix*, endow'd for the most Part with 4, but often with many more *Stamina*. Tournefort makes it a *Monophyllous Calix*, divided into four blunt *Segments*. Both agree that the *Fruit* arises in distinct Parts. It seems to be *Planta sui Generis*: for *Empetrum* or *Erica baccifera procumbens nigra*, only agrees with it in being *Flore a fructu remoto*; for it rather seems to have a small *amentaceous Flower*, with *Juniperus*, and an *esculent umbilicated black Berry*, without any Division of the *Seeds* into *Pouches*.

The Description.

The *Box Tree* is but of a low Stature, very much branch'd, with a rough Bark, yellow *Wood*, or Substance, most solid and ponderous, with thick-set ever-green *Leaves*, like those of the *Myrtle*, but of a lighter Colour, and not so pointed, hollow sometimes, and so sensibly

bly double, that the two Parts may be divided with a Knife, as Mr. Ray informs us, of a disagreeable Taste and Smell. That learned *Author* also observes, that the yellow apetalous Flowers appear first in small Globules, which afterwards break forth into several Clusters, abounding with *Stamina*; but these *Tournefort* affirms are distinct from the *Fruit*, which, according to him, becomes like an *inverted Pot*, or what is turn'd upside down, divided into three *Pouches*, which when ripe, pours out the *Seeds* contain'd, with an Elasticity. It's of a very slow Growth, and long Life, which usually happens to all such ponderous and solid *Woods*. It grows naturally at *Box Hill* near *Darking* in *Surry*, also in *Boxwell* in *Coteshwold* in *Gloucestershire*, and at *Boxly*, where there are Woods of it. Here we may remark, that 'tis not only *Indigenous*, but must have remain'd there so long as to be the Reason of imposing the Names of these three several Places.

Virtues and Uses.

It's not much in Use in the *Shops*, unless for Utensils, and other Mechanical Instruments. They who would substitute it for *Guajacum* and *Sassafras*, are under no Necessity to do it, the other being not much dearer, and much more agreeable; nor is it worth while to distil the *Oil*, on Account of the *Tooth-ach*. Its being so foetid, may make it of Use in the *Epilepsy* and *Vapours*; and *Tournefort* teaches a very good Method of rectifying it, by putting it in a Circulatory Vessel, with one Third of *Sp. Vini*, of which he prescribes 20 Drops for a Dose, given with *Sugar* and Powder of *Liquorice*; but since *Ol. Guajaci*, *Sassafr. &c.* are much more pleasant, and easy to be had, without so tedious a *Rectification*, I suppose few will have Recourse to it. Its Uses in Mechanicks are so various, and so well known, that I need not name them; and what agreeable Ground Plots and Borders they make of it in the *Gardens* of the Curious, every one is sensible.

I might in this Place raise a very good Argument, to prove that *Plants* have no manner of *Air Vessels*, or *Tracheæ*, as Dr. *Grew* and *Malpighi* ascribe to them, that they have neither *Systole* nor *Diastole*, as Dr. *Chambers* would alledge, from *Malpighius's System*, that the *Plantæ folium* can never be esteem'd the *Plantarum Pulmo*, as he would have it; neither can a *Plant* receive any manner of *Nourishment* from the *Air*, with Mr. *Bradley*; but that as the *Capillaries* of the Leaves serve to attenuate and subtilize the *Sap* in the *Sap Vessels*, and render it more capable of Circulation to the *Capillaries* in the *Petals*, and both Male and Female Parts of the *Flower* serve as *Vasa preparantia*, to elaborate the *Seminary Particles*, so that the *Pores* in the Surface of the

Leaves, Flowers, and Bark, are so far from being *Orifices* for admission of *Air* into these *Tracheæ*, (*Air Vessels*) that they are true *excretory Ducts*, for the *insensible Transpiration*, for the emitting of the *superfluous* Particles of the *Sap*, during its *Circulation*, after the same Manner as the more *subtile* and *spirituous* Particles are secern'd by the *Pores* from the *Blood* in *Animal Bodies*, with which the *Lungs* have no manner of Concern. And this I think is fully demonstrated by *Lewenhock's* curious Observation on the Pores in a *Box Tree Leaf*, one half of which amounting to 172,090, and the whole to 344,180. His Words are, (*Transact.* 369.) *Sequitur unam folii Buxi superficiem osculis 172090 præditam esse cum autem altera superficies haud paucioribus instructa sit tandem exsurget numerus 344,180, quorum ope perspiratio & exhalatio fiat.* And again, chusing the downy Part of the Bark of a Peach, he expresses himself thus, *Ibid.* *Cum lanuginem illam quæ mala persica vulgo montana, convestit nupera æstate sine Microscopio considerare frustula quædam mali persici ex cortice excisa ante Microscopium collocavi — ut autem Multitudinem osculorum habitus expirantium palam proponam unaque ingentem numerum exhalantium humorum qui aerem ingressi particulas oblongas, sed alias aliis longiores spifcescunt oculis subjiciam exiguum mali persici portionem delineari & in icone —* By which he declares, That being impossible to enumerate the Pores that the very Particles of Humours which perspir'd through this Portion of the *Peach*, thicken'd the very *Air*, as the Breath we expire, being impregnated by the Particles of our *Blood*, darkens the Surface of a Looking-glass.

By which I may briefly conclude, that if the *Sap* did not circulate, or were not in perpetual Motion, how can we suppose such abundance of Particles could be separated or exhale from it? 2dly, If the *perspiring Pores*, by which these Particles pass out, where is there any Room for aerial Particles to enter, and be admitted into the *Tracheæ*, or *Air Vessels*? For it's impossible there can be two different Passages, an *Exitus* and *Introitus*, by the same *Pore*: Surely those who consider this, will believe there can be no such Thing as 'The *Sap* thickning ' or being condens'd, or turn'd to the Consistence of a Gum by the ' Winter's Cold, so that it can move no more.' That there can be no such Thing as a *Systole* and *Diastole*, where there is neither a *Fibra motrix*, nor *Villum contractile*: That the Plants can never be nourish'd by the *Air*, when there is no imaginable Admittance of *Air* into their *Vessels*, and that some other Use must be assign'd to the *Leaves* and *Flowers*, than that they should perform the same Office in *Plants*, as the *Lungs* do in *Animals*. But enough in this Place, since I am resolv'd, *Deo vitam largente & otium & valetudinem suppeditante*, as Mr. *Ray* expresses it, both to prove an *universal, perpetual, and perennial Circulation*

Circulation of Sap; and that the Air has a quite different Effect upon Plants, than that of their Nourishment. And thus I have finish'd such of the Dispensatory Plants as belong to the Letter B.

C.

XXVI. *Calamintha* and *Hedera terrestris*.

1. *Calamintha palustris* Officin. *Calamintha arvensis verticillata*, C. B. 229. *Mentha arvensis verticillata hirsuta*, J. B. 3. 2. 217. Mor. Hist. Ox. 3. 369. *Mentha seu Calamintha aquatica*, Ger. emac. Raii Hist. 530. Synopf. Stirp. Brit. 232. Water Calaminth.

2. *Calamintha flore minore odore Pulegii*, J. B. *Pulegii odore s. Nepeta*, C. B. Raii Hist. H. Oxon. &c. Field Calaminth.

3. *Calamintha vulg. vel officin. Germaniæ*, C. B. 228. Tournef. Inst. 194. *flore majore*, J. B. 3. 18. 223. Mor. Hist. 3. 412. Raii Hist. 569. Synopf. Stirp. Brit. 243. Hist. des Plants, 405. *montana*, Dod. Pempt. 98. Common Calaminth.

4. *Hedera terrestris vulgaris*, C. B. 206. *Calamintha humilior folio rotundiore*, Tournef. Inst. 194. Hist. des Plants, 181. *Chamæcissus s. Hedera terrestris*, J. B. 3. Raii Hist. 566. Synopf. Stirp. Brit. 131. Dod. Pempt. 394. Moris. Hist. 409. Ground Ivy, Tun Hoof, Ale Hoof.

The T R I B E.

All these are comprehended under the general Title of *Flore labiato donati cujus Labium superius est erectum*, or Lip Flower, with a streight upper Lip; by Boerhave, among the *Gymnotetraspermæ Verticillatæ*, or whorled Flowers, to which succeed 4 naked Seeds. Mr. Ray places the first among the *Verticillatæ*, and the rest with the *Spicatæ*.

N. B. 1st, *Spica* is a Composition of Flowers or Seeds, thick set, so as to make up a long Cone or Cylinder on the Top of a Stalk.

2dly, *Verticillum* is when a Cluster of Flowers closely surround the Top or upper Part of the Stalk, either with or without Pedicles or Foot-stalks, as it were an Hooping or Whorle. These *Verticillatæ* differ from the *Spicæ* in the Lip or Helmet Flowers, when they are at certain Distances betwixt the Whorles, frequently with a Pair of Leaves at the Base, especially when the Distance is conspicuous; but when they are near to each other, then they are call'd both *spiked* and *whorled*.

N. B. What Tournefort calls simply *Flores Labiati*, Lip Flowers, Ray calls *Galeatæ*, (Helmet Flowers) and sometimes *Labiatae* & *Galeatæ*, some Flowers in the same Genus resembling an Helmet, and others what

what may be more properly call'd a *Lip*. Thus *Calamintha aq.* is call'd *Planta verticillata*. The other *Calaminths* are *Spicatæ* & *Verticillatæ*, and the *Mentha* for the most Part are only *Spicatæ*.

I was doubtful whether I should bring *Hedera terrestris* to this Place, or treat of it at H. Mr. Ray blames *Tournefort* for lightly changing the Names of *Plants*, which are *longo usu receptæ*, when under no Necessity. Thus it was necessary for Dr. *Morison* to place *Alfine Hederule folio* & *Veronica folio* among the *Veronica's*, because they have the same Characters, and much the same *modus crescendi*, and to place the *Anagallides aquat.* among the *Veronica's* also, because of the same Flower and Fruit; but *Tournefort* was under no such Obligation to make *Angelica hort.* an *Imperatoria*, *Raph. rust.* a *Cochlearia*, and this *Hedera terrestris* a *Calamintha*, because some have not the same Notes; for *Imperatoria* differs from *Angelica* by the Umbell, compression of the Fruit and Taste. *Raphanus* by the *facies externa* and Taste, differs much from *Cochlearia*. *Hedera Terrestr.* by the *modus crescendi* and the Taste and Smell is very distinct from *Calamintha*. For all the genuine *Mints* (by which I exclude *Pulegium*) and *Calamints*, have a peculiar Taste and Smell, by which they resemble each other, and differ from all others of the *Gymnotetraspermous*, *spicated* and *verticillated* Tribe. However, I have chosen to insert *Hedera Terrestris* here, both because the expert and judicious Editor of Ray's *Synops.* Edit. 3d, has thought fit to do so, and that I might treat of as many of that Class together, as that the 2d and 3d Decads, seriously consider'd, giving a very good Idea of the *Umbelliferous Plants*, this 4th may give a true Representation of the *labiated*, or *Lip Flower* Tribe, after the same Manner,

Both Mr. Ray and *Tournefort* agree, that this *Calamintha aquat. offic.* is truly a *Mentha*, because the Borders of the small Flowers appear equal; so that instead of an upper and lower Lip, it's so divided as if it were *quadripartite*, whereas the upper Lip of the *Calaminths* is erect: But how this will answer with *Tournefort's* General Title of the *Seet.* viz. to be *Cochlearis instar excavatum* (Hollow) I know not: But be how it will, though it have a Mint Flower, yet it has a *Callamint* Taste and Smell, consequently of the same *Virtues*, which is all I'm concern'd for in the *Officinal* View.

The Description.

1. *Water* or *Field Calamint* is a low Plant, growing sometimes on the Sides of Ditches, also in moist Corn Fields, with a fibrous running Root, square, somewhat hairy and whitish Stalks, Leaves by Pairs, of a *Calamint* Scent, on short Foot-stalks, roundish, but longer and larger

larger than the *common Calamint*, somewhat indented, and much of the same hoary and whitish Green Colour. The thick *Whorles* of *Flowers* are at pretty distant Intervals, upon the Top of the *Stalk*, with a Pair of *Leaves* supporting each Whorl of *Flowers* and *Seeds*, as above.

2. *Field Calamint* has the *Stalks* more reddish, *Branches* inclining more downwards, *Leaves* not so hairy, and whitish, both *Leaves* and *Flowers* less than the former, a vehement Smell, rather inclining to that of *Penny Royal* than *Mint*. Both grow on dry *Banks* on the Sides of High Ways. The second is more frequent, and flowers later in the Year.

3. *Common Calamint* has its *Leaves* upon a *quadrangular, jointed*, somewhat rough *Stalk*, about half an Inch long, a little crenated, hoary, and of a whitish Colour, the *Flowers* two or three upon one common *Pedicle*, arise from the opposite Sides of each joint and Bosom of the *Leaves*, at least the upper Part of the *Stalk* and *Branches*; the *Lip Flowers* have their upper *Lip* erect of a pale red, the *Calix* *tubulous*, and for the most part trifid, of a *Mint* Smell, but more vehement.

'Till of late, I always look'd upon the *Calamintha vulg.* now call'd *Montana*, to be the *Calamintha Offic.* But since the *New London Dispensatory* has been pleas'd to establish the *Calamintha odore pulegii*, because it seems more frequently Indigenous here in *England*, as such; I yield to Authority, and superior Judgments.

4. *Ground Ivy* propagates itself as much, by emitting *radical Fibres* from the Joints of the *Stalks*, as most of the *Mint* Kinds do, below Ground, running along, and spreading under *Hedges*, and on the Sides of *Ditches*, sending forth also long round *Pedicles* by *Pairs*, each supporting round *Leaves*, dark Green above, White below, somewhat hairy, crenated, with round Nitches about an Inch Diameter, and deep divaricated *Veins*; the *Flowers* arise from the Bosom of the *Leaves*, two or three together on each Side, upon one common *Pedicle* or *Foot-stalk*, in an oblong *tubulous Calix*, *Blue*, with a *bifid* erect upper *Lip*, the under one *tripartite*, the Middle larger and bifid also, to which succeed the 4 *Seeds*, as above.

I have often observ'd a larger and less Species of *Hedera terrestris*, the one *flowering* more early in the Spring, and far more plentifully, the other later, the *Leaves* of the one much less, of a purplish Red, the *Stalks* not spreading so far, growing on dry *Banks*, craggy Ground, and tollerably good *Pastures*, but much expos'd to the Sun; whether Culture, or Alteration of Soil, will shew them to be Variations, I know not; but upon several Years Continuance in the same Place, I have seen them have the same Appearance. *Rivinus* gives an handsome Figure of both, by the Names of *Major* and *Minor*.

Virtues and Uses.

All the *Calamints* consisting of *tenuous* and *subtile Particles*, and exalted Oil, are *carminative*, *discutient*, and *aperitive*, good for the *Stomach* and *Cholick Pains*. It may be drank in a *Tea*, or in Infusion of it in *White Wine*, made afterwards in a *Posset*, and drank hot, may be an effectual and speedy Remedy to appease *Cholick Pains*, also to provoke the *Menses*; but to some its heavy strong *Scent* and *Taste*, may be more noxious than that of the other *Mints*. It enters *Syr. de Artemis. Iuxta Arthrit. de prassio. de Stechade. de Epithymo. Oxymell Eleboratum. Looch Sanans. Spec. Diacalaminth. Dianis. Theriaca Androm. &c.*

4. *Ground Ivy* having a quite different *Taste* and *Smell*, can never be justly reckon'd a *Calamint*, as is observ'd. It's esteem'd *aperitive*, *detersive*, and *vulnerable*; above all, it's look'd upon as a good *Pectoral*, consisting of *viscid* and *balsamick Particles*; so that being *subastringent*, it contracts the *Orifices* of the *Capillaries*, and curbs the *Acrimony* of the *Blood*. It's of an *heavy Smell*, and moderately *bitter Taste*; by its *Viscid*ity, the grosser *Particles* of fermenting *Malt Liquors* adhere to it, which, by the *Gravity*, subsides to the *Bottom* of the *Vessel*; and thus it clarifies the *Liquor*, as *Whites of Eggs* do, *Whey*, and the *Decoction of Green Herbs*. It's on that Account call'd *Ale-boof*, or *Tun-boof*, and we may say with *Mr. Ray's Synopsis, Edit. 3d, olim (& nunc etiam) doliis Immissa uti soliti sunt ad depurandam seu clarificandam Cerevisiam*. For there's scarce any *Publick House* in *London*, but keeps what they call *Gill Ale*, which they reckon a good *Pectoral*, and for *Shortness of Breath*; though I have often observ'd, if the *Ale* was thereby more depurated, yet it stopp'd the *Fermentation* of it so far as not to suffer it to have so *keen Edge* as otherwise, it still remaining a dull heavy *Taste*. It's seldom us'd in the *Shops*, save in *Ptisans*, with other *Pectoral Ingredients*.

Before I quit these *Calamints*, I cannot pass by a *Species* sent me by an ingenious *Correspondent*, which I have for some *Years* cultivated in my *Garden*, and supposed it to be a *Calamintha flore magno prestantior*; but upon a more strict *Examination* of the several *Species*, I find that to differ from any of its *Congeners*, except it be *Calamintha odore pulegii*, *Hist. Oxon. 3. 413*. I shall therefore give the *Synonima* of both, and compare the *Descriptions*.

Calamintha magna flore, C. B. 229. Montana fl. magno ex Calyce oblongo, J. B. 3. 28. 229. Montana prestantior Lob. Icon. 512. Raii Hist. 569. Rivini Icon. ad fl. Irregular, monopet. Field Calamint, with a large Flower.

Calaminth

Calamintha odore pulegii fol. latioribus, Hort. Lugd. Bat. 102. *Magno fl. odore pulegii*, Hist. Oxon. 3. 413.

The first has several square Stalks arising from the *Root*, endow'd with Leaves by Pairs at the *Joints*, half an Inch long, says Mr. Ray; an Inch long, and oval, says Bobart; from two Inches to one and half long; and from one Inch, to half an Inch broad, according to Rivini's Figure, and Spear pointed. The Flower is twice as large as that of the common *Calamint*, and the common Pedicle, with the *Calix*, proportionable. The Leaves of this are roundish and broad pointed, deeply crenated with the former, dark Green and smooth; those of the Bottom about an Inch Broad at the Base, and an Inch and half long, upon an half Inch Pedicle; the others as they ascend gradually less and more pointed, with deep fulcated Veins, oblong *Calix* and Flower, proportionally less than the *Calamintha magno flore*, and much larger than the other two; so that whether we consider the *Surface*, it differs very much from the two first *Calamints*; the Figure of the *Leaf* is much shorter, broader, and less pointed than the third, with both *Flower*, *Calix*, and *Pedicles* less; in a Word, the whole *Plant* is both less and of a lower Stature: But what is most remarkable is its *Smell*, not so vehement and heavy as the rest, but agreeable Smelling like a *Citron*, rather than *Penny-royal*; and its *Taste* agreeably hot, much more pleasant than either the *Calamint* or *Mint* Kind; much resembling a *Citron* in the Flavour, and not unlike *Pepper Mint*, by the Hotness of the *Taste*, of which hereafter. I am ready to believe it's the *Pulegii odore foliis latioribus*, of Hort. Lugd. Bat. for which Herman assigns no Author, and should think it were that mention'd by Bobart, if the Figure to which he refers it, *Sect. XI. Tab. 21.* did not express the Leaves much more narrow pointed. To conclude: I was ever averse from an unnecessary Multiplication of Species; but this must either be a *non descript*, or the Description of it must be erroneous, according to the Figures.

XXVII. *Calendula*.

Calendula, Dod. Pempt. 254. *Caltha vulg. fol. pallido*, C. B. 275. Tournef. Instit. 498. *fl. simplici*, J. B. 3. 26, 101. Raii Hist. 337. Moris. Hist. 3. 13. Common Marygold.

The T R I B E.

This is one of the principal *Corymbiferae Radiatae*, chiefly differing from its *Congeners* by its frequently *bended solid Seeds*, sooner throwing off the *Floscules* or *Flourishes* than usual.

The Description.

It has a whitish thick annual *Root*, a low very much branched small round somewhat rough corner'd *Stalk*, obdused with a Clammy-ness perceptible by the Touch. The yellow green *Leaves* like a Tongue furround the *Stalk* without *Pedicles* or Footstalks, narrow at the Base, juicy and hoary; supporting numerous yellow or Gold-colour'd *radiated Corymbiferous Flowers* upon the upper Part of the *Stalks* and Branches with a large crested and fringed rough *Empalement*, and large broad crooked *Seeds*, convex and broad on the outside, sharp and narrow on the Inside. It very much abounds in most Gardens, frequently with full large double *Flowers*, only consisting of half *Flourishes*.

Virtues and Uses.

Marygold Flowers may be justly call'd *Crocus pauperum*, there being scarce any Case where *Crocus* or *Saffron* is prescrib'd to those who are able to purchase it; but the meaner Sort of People use *Marygold*, especially in the *Malignant Fevers*, *Purples*, *Scarlets*, *Small Pox*, *Chicken Pox*, *Meazles*, or where a *critical Eruption* is suspected, or accompanies any such *Fevers*. They take the dry *Semifloscules* and suspend them in a *Bag*, in *Chicken* or *Barley Broths*. They infuse them in *Small Beer*, *Sack*, or *White Wine*; which afterwards they turn into a *Possset* with Milk; they take off the *Possset Head*, and give the *Possset* to be drank plentifully upon the first access of any such *Fever*. They are esteem'd *Cordials* provoking *Sweats*, expelling these *critical Pustules*, good for the *Jaundice*, (probably *per Signaturam*) provoking the *Partus* and *Menses* in all which it resembles the *Crocus*, as shall be shewn, though its Principles, either by *Taste* or *Smell* do not seem to be very active, yet its balsamic Particles, which are evident by the viscid and clammy Surface, may very much envelope and obtund the *acrimonious* Particles in the Texture of the *Blood* of those who are affected with the abovenamed *Distempers*. There is a *simple distill'd Water* of the *Herb* and *Flower*, which is not unfitly order'd to be after a previous *Maceration*, and *Digestion*. Both *Herb* and *Flowers* enter *Aq. Epidemica*. The *Conserve*,
with

with a triple Quantity of Sugar, is a very proper *Vehicle* for *Cordial Powders*, &c. because its Taste is in no wise disagreeable to nice Palates.

Camphorata, vide *Chamæpitys*.

XXVIII. *Cannabis*.

Cannabis sativa, C. B. 320. Tournef. Instit. 334. *mas* & *fœm*. J. B. 3. 30. 448. *fœcunda* & *sterilis*, Dod. Pempt. 335. Raii Hist. 158. Synop. Stirp. Brit. 53. Moris. Hist. 3. 433. Common Hemp.

The T R I B E.

This is one of the *Apetelous Plants*, *flore a fructu remoto in diversis plantis*, and join'd with *Spinachia* and *Mercurialis*. *Bryonia* and this, the one *perennial*, the other *annual*, afford most powerful *Arguments* for the *Sexes* of *Plants*; for tho' the *Male Plant* of *Bryony* may be, and often is observ'd, at a great Distance from the *Female*, yet it can be propagated by the *Root*; so that it's not necessary for its *Berries* always to be *impregnated* or *productive*; whereas, if the *Male Plants* which grow promiscuously among the *Female Plants* of *Cannabis*, be pull'd up, before the *Male Dust* is fully shed, the *Seeds* will prove abortive, produce nothing if sown next Year, neither will those concern'd in the *Oil Mills* give any thing for them, there being only empty Husks, without any Kernel to produce the *Oil*. This I have mention'd elsewhere, and is well known to the Inhabitants of *Bickar*, *Swineshead*, and *Dunnington*, three Parishes in *Holland* in *Lincolnshire*, where *Hemp* is cultivated in great Abundance, and where they who unwilling to lose the Benefit of the *Hemp*, pull what they call the *Femmel*s (*i. e.* the *Male Plants*) too soon to their dear bought Experience, as I have been inform'd by Persons of good Credit.

The Description.

From an *annual*, *simple*, white, woody, not very fibrous *Root*, this Plant arises with a streight, square, hollow, branched *Stalk*, about a Man's Height, cloathed with a dark, thick, green, rough *Bark*. The *digitated Leaves* upon long *Pedicles*, proceed 5, 6, or 7, together, oblong, narrow, pointed, nervous, rough, dark green, and indented. From their Bosom in the *Male Plants* proceed four *racemi*, or small *Spikes*, decussated two and two, like a *St. Andrew's Cross* X, loaded with *Apetalous small Flowers*, deep divided into five Segments, purplish
B b b without,

without, and light green within, with 5 *Stamina*, and yellow *Apices*, plentifully endow'd with Dust. These *Plants* produce the *Flower* much sooner, are more early blown, and the Dust is shed before the *Embryons* appear; after which, the whole Plant immediately dries up, and unless pull'd before they decay, their Bark or *Hemp* will be good for nothing. The *Female Plants*, which are always much taller and larger, have their *Embryons* thick set round the Joints, at the Bosom of the *Pedicles*; they are at first dark green, rough and obdused with a Viscidity, and afterwards become oblong or oval, a little flattish towards the *Stalk*, smooth, purplish, and shining *Seeds* when ripe.

It is sown in fat well cultivated Ground, and in the Bottoms of Dunghills. Mr. Ray observes, that in the poorest Soil the *Male Plants*, and in the richer the *Female Plants* are more numerous. The Reason is, the *Male Plants*, which only produce the *Flower*, do not require so much Nourishment as the *Female*, which must perfect the *Seeds*, requiring fatter Ground, do not so readily spring forth in a poor Soil as the *Male*.

N. B. *Folium digitatum* is when 5, 6, or 7 *Leaves*, united at the Center and extremity of the Pedicle, are spread forth towards the Circumference, like so many Fingers, as in this *Cannabis*, *Helleborus niger*, and *Floss passionalis*, or the *Passion Flower*; and differs from *Folium pinnatum*, when the small *Leaves* are join'd by Pairs to the *Midrib*, or *Costa media*, which is only an elongation of the *Pedicle*.

Virtues and Uses.

The Culture, dressing, and preparing of *Hemp*, for the Mechanical Uses of all Kind of Cordages and coarse Cloths, is well known, and of *Hemp Seed* for Oil. The medicinal Virtues of the *Seeds* are variously treated; some asserting it to be *Venereal*, others *e contra*, others recommend it for stopping the *fluor albus*, and others reckoning it a *Specific* for the *Jaundice*. I look upon it to consist of *oleaginous Particles*, and fit for obtunding of *Acrimony*. I have seen it given in Emulsions for the *fluor albus*, and *Jaundice*, mix'd with other Emollients for *Cataplasms*, and with *Sem. Psyllii* and *Cydon.* for *Collyriums*, for a Lennitive to sore Eyes. It seems to partake of the same Virtues with *Sem. Lini*, but not quite so *Viscid*. Its Use for Food to tame Birds is well known.

Capillus Veneris, vide Adiantum.

XXIX. *Caprifolium*.

Caprifolium. *Periclymenum non perfoliatum*, J. B. Tom. 2. l. 15. *Periclymenum non perfoliatum Germanicum*, C. B. 302. Raii Hist. 1490. *Caprifolium Germanicum*, Dod. Pempt. 411. Boerh. Ind. 2. 226. Honey-Suckle.

The T R I B E.

This is the first Bacciferous Shrub in the Alphabet. It has an oblong tubulous *Flower*, like an Hunting-Horn, enlarged at the Border, and divided into two *Lips*. It differs much in the Flower from all those class'd with it by *Authors*: Therefore *Tournefort* must lay aside his Classing by the *Flower*, when he comes to *Trees* and *Shrubs*, and place their *Characteristicks* in the Fruit with other *Authors*. This *Caprifolium* is among the *Dicotylidones Bacciferae*, with *Boerhave*, and *Bacciferae Umbilicatae Polypyrenae*, with Mr. Ray.

The Description.

This *Shrub*, from a white woody fibrous *Root*, sends forth several weak infirm branched *Twigs*, unable to support themselves, but climbing upon whatever *Shrub*, *Tree*, *Bank*, or *Wall*, to which it's nearest, and arising to a great Heighth, if supported as the *Twigs* arise, seldom exceeding the Grossness of one's Thumb. The *Leaves* by Pairs, are oblong, oval, smooth, light green, about two Inches long, and half an Inch broad. The *Flowers* on the upper Part arise aggregated, or in Tufts, 5, 6, or 7 together, from the same Origin, without *Pedicles*, oblong, tubulous, and bended like an Hunting-Horn, reddish without, divided at the Border into two *Lips*, the upper erect and bifid or trifid, the lower larger, dependent and fring'd, yellowish, of an agreeable Smell, with five long small *Stamina*, and round *Apices* about the Bigness of a Pin's Head; the *Stylus* is long, bending upwards, and much longer than the *Stamina*. To each of these Flowers succeeds an oblong or oval Berry, red when ripe, full of small *Seeds*.

It grows in *Woods* and shady Places, the Sides of Houses, and *Garden Walls*; the *Bark* is green, smooth, closely adherent the first Year, becoming more loose the second, drying and thrown off, the third Year, as the *Vine*, &c. to which succeeds a new Coat or *Bark*.

These loose exile Membranes yearly thrown off a few *Trees* and climbing *Shrubs*, as *Betula*, *Caprifolium*, *Vitis*, &c. brings again under Consideration the *Circulation* of the *Sap*; for as these several *Tunics* of the

the *Bark* dry up the Orifices of the *Sap Vessels* which nourish'd them are shut, so that the *Sap* is more concentrated, and confin'd within less Bounds, which may be one Reason why the *Sap* ascends in such Abundance in the *Birch*, before it push forth the annual Surface, and why it has been observ'd to flow so swiftly in the *Vine*, that by placing of a *small Glass Tube* upon a *Vine Branch* transversely cut, the *Sap* has been observ'd to rise and fall like *Mercury* in a *Barometer*, according as the *Heat* of the Sun is more or less intense, and to ascend two or three Foot high in a visible Fluid, in the Month of *March* and *April*, and to continue thus until the *annual Surface* be wholly push'd forth; but of this more when I come to *Vitis*.

Virtues and Uses.

It's of little or no Use in *Physick*. Its Leaves, which used to be prescrib'd in *Gargarisms* for *sore Throats*, are suspected for their Acrimony; but perhaps they may be as effectual as the *Folia Solani vulgaris*, which, though less Acrimonious, are frequently, in this Country drank as *Tea* for that Distemper, and so effectual, that it's look'd upon as a *Specifick*.

Capficum, vide Amoris Pomum.

F I N I S.



PHARMACO-BOTANOLOGIA;

O R,

An Alphabetical and Classfical

DISSERTATION

ON ALL THE

British Indigenous and Garden Plants

OF THE

New *London* DISPENSATORY.

In which

Their GENERA, SPECIES, *Characteristick* and *Distinctive* NOTES are Methodically described; the *Botanical* TERMS of ART explained; their *Virtues*, *Uses*, and *Shop-Preparations* declared.

With many CURIOUS and USEFUL REMARKS
from proper Observation.

DECAD V.

By PATRICK BLAIR, M. D. of *Boston* in *Lincolnshire*,
and Fellow of the ROYAL SOCIETY.

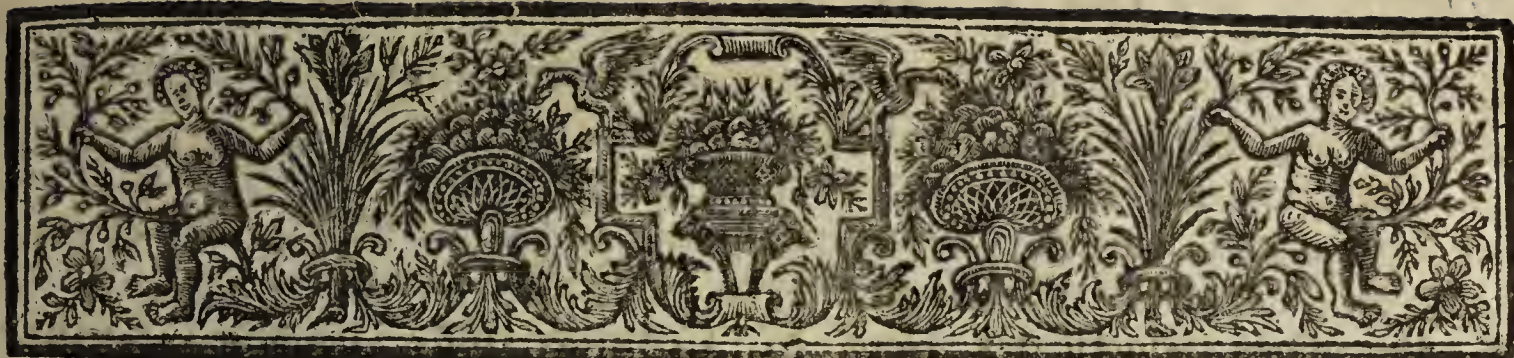
*Miseri mortales qui Naturam ejusque artificium Abdunt, ubique
diligentia patens, & Amplissimos solis radios Nubecula ob-
fuscant.* Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN at the *Golden Ball* over-against the
Royal Exchange in *Cornhill*; W. and J. INNYS at the *West*
End of *St. Paul's Church-Yard*; and W. MEARS at the
Lamb without *Temple-Bar*. MDCCXXVII.

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T H E
P R E F A C E
T O T H E
F I F T H D E C A D.



HIS comes abroad in due Time, as I promised in the last, and is to be followed in the same gradual Manner by all the remaining Decads, until the whole Dispensatory Catalogue is finished.

It contains three remarkable Particulars ; 1. A Variety of Species, by which the Distinctive Notes are further explained. 2. Several Plants famous for their frequent Use in Physick. 3. An Account of the Correspondence betwixt their Notes and Virtues.

The Species begin with the Tetrapetalæ Siliquosæ ; such as Cardamine ; The Capitatae are Carduus Mariæ, Benedictus, Carthamus, Atractylis, Centaurium majus, Cinara. The Umbelliferæ are Carum, Cicuta and Coriandrum ; Caryophyllata is one of the Gymnopolyspermæ or Flores Rosacei of Tournefort ; Caryophyllus is the first of Tournefort's Caryophylleous Class ; Castanea, Cerasus, Cornus, Corylus, are Trees of several Genera ; Chamædrys, &c. with Chamepitys are a Continuation of the Unilabiated Tribe ; Chamæmelum, &c. of the Radiate ; Citrullus brings in the whole Officinal Species of the Pomiferæ Scandentes ; Centaurium min. is one Example of the Diangiæ-polysperinæ ; Cochlearia affords Examples of the Tetrapetalæ Siliculosæ ; Consolida shews some of the most considerable Asperifoliæ : Three Species of Conyza are produced, because, though they have been esteem'd by the Ancients, yet there remains an
Uncertainty;

The P R E F A C E.

Uncertainty of the Officinal Species among the Moderns ; Coronopus leads the Plantain, and Crassula the Sedum Kinds.

2. Esteem'd for their Virtues and Use, are Carduus Benedict. Fol. Sem. Carthamus, Carum, Coriandrum, Sem. Caryophyllatæ, Rad. Caryophylli Fl. Cerasi Fruct. Chamædryos, Scordii, Chamæpityos, Herb. Chamæmelum Matricaria Herb. Fl. Centaur. min. summitates Coch. Herb. Raph. rust. Rad. Consolida Cynogloss. Rad. Plantago Herb. Sem. Psyllii Sem. Sedum Herb. and Citrullus with his Congeners make up the Sem. 4. frigida maj.

3. Correspondence in Virtues. The Capitatæ of Virtues more or less potent, the same with Carduus: The Seeds of the Umbelliferæ, salutiferous and carminative, or poisonous and more acrimonious; as Cicuta, Œnanthe aquat. and Phelandrium: The Difference I suppose being, though all the Umbelliferæ consist of tenuious and subtile Particles, yet the Salts of these esteem'd poisonous Plants must be more acrimonious than the other, and 'tis probable that this Acrimony may be chiefly lodg'd in the Herb, and the Seeds may be more inoffensive; the more acrimonious Particles being deny'd admittance at the composing of the Seed, which, generally speaking, have a different Taste and Texture from the other Parts of a Plant. The Virtues of the Corymbiferæ nudæ and Radiatæ are chiefly the same, in a more or less degree, with Chamæmelum. I have remark'd, that most of the Unilabiated, when treating of Bugula, have the same Virtues. The Tetrapetalæ Siliculosæ are potent Antiscorbuticks with Cochlearia. The Asperifoliæ more or less Coolers, astringent or anodyne, of which Buglossum, Decad. IV. Consolida maj. and Cynoglossum are the Examples; for tho' Cynoglossum be chiefly esteem'd narcotick, yet it is also astringent; and I look upon the pernicious Effects of it, and its Congener, Cynoglossum maritimum, to be only because they exceeded in the Dose, as a great many Medicines, when taken in too great a Quantity, prove both noxious and poisonous. Colocynthis and Cucumis agreft. only differ from their Congeners by two acrimonious Salts. All the Plantain Kinds are Astringents, and the Seda Coolers and Repellents.

Since the Explanation of the general Characters and Terms of Art are much past, These, and the following Sheets, will be chiefly employ'd in a more full Declaration of the Distinctive Notes, and farther Demonstrations of the great Correspondence betwixt them and the Virtues of Plants, which I hope will still prove entertaining and instructive. The next DECADE shall come abroad in a short Time, and will give an Account of some Plants of special Consideration.



PHARMACO-BOTANOLOGIA;

OR, A

TREATISE


OF

DISPENSATORY PLANTS,

Alphabetically and Classically disposed.

DECADE V.

I. CARDAMINE, NASTURTIIUM AQUATICUM, & SOPHIA CHIRURGICORUM.

1.  *Cardamine pratensis magno flore purpurascens*. Tournef. Instit. 224. T. 109. *Nasturtium pratense magno flore*, C. B. 104. *Iberis Fuchsii sive Nasturtium Sylvestre*, J. B. 2, 21, 889. *pratense magno flore simplici*, Moris. Hist. 2, 223. Hort. Lugd. Bat. 445. *Cardamine*, Raij Hist. 814. Synops. Stirp. Brit. 170. *Flos Cuculi*, Dod. pempt. 592. Ladies Smock, or Cuckow Flower.

2. *Sisymbrium aquat.* Math. 487. Tournef. Instit. 226. *Sisymbrium Cardamine sive Nasturtium aquat.* J. B. 2, 21, 889. *Nasturtium aquat. supinum*, C. B. 104. *aquat. supinum flore albo*, Moris. Hist. 2, 223. Raij Hist. 816. Water Cresses.

C c c

3. *Sisymbrium*

3. *Sisymbrium annum Absinthii minoris fol.* Tournef. Instit. Hist. des Plantes. *Nasturtium sylv. tenuissime divisum*, C. B. 105. *Nasturtium sylv. tenuissime divisum sive Nasturtium μνεύουλλον*, fl. luteo minimo, Moris. Hist. no. 5. *Erysimum Sophia dictum* Raij Hist. 812. Synop. Stirp. Brit. 170. *Seriphium Germanicum sive Sophia quibusdam*, J. B. 2, 21, 886. *Sophia Chirurgorum*. Lob. Icon. 738. Flixweed.

The Tribe.

Tournefort, though he brings these into one *Section*, yet divides them into different *Genera*; and though it be agreed that they are *Tetrapetalæ Siliquosæ*, yet Boerhaave's only Distinction between them is, that *Cardamine* has the *Siliquæ per maturitatem dissilientes*, which is more particularly observable in that *Species* called *Cardamine impatiens*, and that this *Nasturtium* has them not so. This is justly term'd *Sisymbrium aq.* that it may be distinguish'd from *Nasturtium hortense*; but care is to be taken that it be not confounded with *Sisymbrium aq. Menthæ Species*. Though *Sophia Chirurgorum* does not fully partake of the same Virtues, yet I have brought it hither because of the Notes.

The Description.

1. *Ladies Smock* is a low Plant with fibrous *Roots*, sending forth several *pinnated Leaves*, consisting of four or five Pair of small roundish *Pinnæ*, not always directly opposite, with an odd one, spread on the Ground; the flowering Stem in the middle rises about one foot high, endowed with a few alternate more narrow and sharp-pointed *Pinnæ*, bearing a few large *Tetrapetalous*, purplish, or more white *Flowers* on the top, with yellow Apices, and small long *cylindrical* bivalve Pods succeeding, full of small round Seeds.

It flowers in *March* and *April*; grows at the sides of Ditches and other fenny or boggy moist and shady Places.

2. *Water Cresses* has many small white Fibres of the *Root*, sunk in the Mud at Spring Wells, and in the bottom of Ditches and other watry Places, chiefly where there is a *Spring*. The *Leaves* are *pinnated*, consisting chiefly of six pair, oblong or subrotund, light and smooth, with a single one largest, and frequently more purplish. The numerous *flowering Stems* arise one foot high, supporting small white *tetrapetalous Flowers* in *Tufts*, to which succeed small *cylindrical* bivalve Pods with round Seeds.

These

These Herbs appear sooner in the Spring than most of the Water-Plants; the Flower is frequently in *April* and *May*.

3. *Flixweed* arises on the Walls and dry Ground, with a strait branched hard round *Stalk*, adorn'd with fine deep divided *Fennel-like Leaves*, of a blueish Colour, like *Roman Wormwood*: The *tetrapetalous Flowers* are very small and yellow, succeeded by small *bivalve cylindrical Pods* with numerous *Seeds*; it grows in dry gravelly and sandy Places.

Virtues and Uses.

1. *Water Cresses* is reckoned one of the most potent *Antiscorbuticks* in the Shops; and being joined with *Anagallis*, or *Veronica aquat.* or *Becabunga offic.* is drank in the Juice, mix'd with *antiscorbutical Infusions*, among *Ale* distill'd in *antiscorbutical Waters*; eat with *Salt* in cold *Sallads* in the Spring; they also eat it with fresh *Butter*; the *Teeth* are rubb'd with the *Leaves* and *Salt* in a Morning, to preserve the Gums from *antiscorbutical Erosions*. See more of this at *Anagall. aq.* Decad I.

2. *Cardamine* serves for the same Purposes; but being a small Plant, and not soon gathered to any quantity, the other is more frequently used.

3. *Flixweed Seeds* are not so acrid; the whole Plant has more of an *Astringency*, and, when used in the Shops, 'tis prescribed for *Diarrhæas* and *Dysenteries*; 'tis also thought good for the *Gravel*, though the *Seeds* of other *tetrapetalous* Plants more acrimonious should be preferred.

II. *Cardiaca.*

Cardiaca J. B. 3, 28, 320. Tournef. Instit. 186. T. 87. Dod. pempt. 94. Lob. Icones 516. Raij Hist. 563. Synops. Stirp. 134. *Marrubium Cardiaca dictum*, Moris. Hist. 3, 378. Motherwort.

The *Tribe.*

This is another of the *bilabiated* or *two-lip'd Flowers*, with the upper *Lip* concave. By Mr. Ray 'tis plac'd among the *Spicatae & Verticillatae Herbaceae*.

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The Description.

This Plant, from a *perennial fibrous Root*, arises one or two Foot, with gross strait four-square *Stalks*, with large broad rough *deep-vein'd Leaves*, darker green above than below, upon pretty long *Foot-stalks*, *roundish* towards the *Pedicle*, denticulated before, the upper Leaves from the Joints of the *Stalks* are chiefly divided into three pointed *Segments*, the middle largest. The *Whorles* of Flowers from the upper Joints have hard short prickly *Empalements*; the *Flowers* have a subrotund hollow *upper Lip*, the *lower trifid*, the *middle* being the largest; the *four Seeds* are like others of that kind: It flowers in *July*, grows in *Lanes* in *Towns*, and near to *Gardens*; so that 'tis doubted whether it be *Indigenous*, or an *Ejectamentum*.

Virtues and Uses.

'Tis esteem'd *cordial*, *hysterical*, and fit for *provoking* the *Menses*, and *promoving* the *Partus*; but its Principles do not seem to be so active as to answer those good Designs; therefore, since there are others of that Class of more potent Virtues, 'tis of no great use in *Physick*.

III. *Carduus Mariæ, Carduus Benedictus, Atractylis & Carthamus.*

1. *Carduus Mariæ* vulg. Raij Hist. 312. *albus maculis notatus* vulg. C. B. 381. Tournef. Instit. 440. Hist. des Plantes 323. Boerh. Ind. 136. Morif. Hist. 3, 154. Ladies Thistle.

2. *Carduus Benedictus*, J. B. 3, 25, 75. *Cnicus sylv. hirsutior* sive *Carduus Benedictus* C. B. 378. Tournef. 450. *Carduus nutans* & *procumbens sudoriferus* & *amarus*, Morif. Hist. 3, 160. Blessed Thistle.

3. *Atractylis lutea* C. B. 379. *Atractylis vera flore luteo* J. B. 25, 83. *Atractylis* Raij Hist. 304. *Carduus luteus erectus reticulatus ramulis fusum referentibus*, Morif. Hist. 3, 161. *Cnicus Atractylis lutea dictus*, Tournef. 451. Hist. des Plantes 490. Yellow Distaff-Thistle.

4. *Carthamus offic. flore croceo*, Tournef. 457. Boerh. 139. sive *Cnicus* J. B. 3, 25, 79. *Cnicus sive Carthamus offic.* C. B. 378. Morif. Hist. 3, 145. Raij Hist. 302. Bastard-Saffron, or Saf-Flower.

The Tribe.

I have joined these four together, being of the *Capitatae*, or *Gymnomonospermæ Capitatae*, according to *Boerhaave*; they are also of the *Carduus* or the *Thistle-kind*; distinguish'd as they are more or less prickly. *Carduus Mariæ* is esteem'd a genuine *Carduus*, being more prickly than the rest. *Carduus Benedictus* and *Atractylis* are plac'd among the *Cnici*, being less prickly, and having their large turgid *Head* surrounded by several small *Leaves*. These three have *pappous Seeds*; *Carduus Benedictus* has bearded *Seeds* with stiff *Bristles*, placed like the *Feathers* in a *Shuttle-Cock*. *Carthamus* *Seeds* have no down. *Boerhaave* observes, that the *Carduus* are somewhat milky.

The Description.

1. *Ladies Thistle* is a biennial *Plant*, with a soft carnos *Root*, the first Year spreading forth large sinuated smooth shining dark variegated green *Leaves*, with milky veins, and very prickly round the edges: The strait prickly striated downy branched *flowering Stem* arises two or three Foot high; the second or third Year supporting large *Heads*, composed of several thin smooth prickly *Leaves*, of an *Empalement* surrounding many large blue *Floscules*, to which succeed several flat oval black smooth *Seeds* lodged on a *Down*.

2. *Blessed Thistle* arises with several infirm rough striated *Stalks* and *Branches*, spread forth with large slash'd, or largely nitch'd, rough light green *Leaves* not so prickly as the former. The *Heads* are large bulg'd or protuberant, surrounded by some rows of less prickly *Leaves*, with sharp prickles at the end, enclosing several yellow *Floscules*, to which succeed several oblong large striated light green *Seeds*, with the eye, where it was fix'd in the *Thalamus*, somewhat resembling an human Face; the other end is crown'd with several stiff *Bristles* bending outwards, lodg'd in a *Down*. It is an annual *Plant*.

3. *Distaff-Thistle* has its first *Leaves* less than the former, lying in a Circle on the Ground, slash'd and surrounded with *Prickles*. The *flowering Stem* arises with less alternate *Leaves*, more prickly, and dent-ed or notch'd, upon a strait not much branched *Stalk*, supporting a few *Heads*, large in proportion, but less than the former, surrounded with small prickly *Leaves*, and enclosing several yellow *Saffron-like Flourishes*, to which succeed oblong square *Seeds*, not unlike the following, not very *pappous*.

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4. *Bastard-*

4. *Bastard-Saffron*, so called from the Colour of its *Flourishes*, arises with a strait round *Stalk* branched at the top. The alternate smooth nervous *Leaves* are endow'd with few *Prickles* round the edges, about two Inches long, and one Inch broad and pointed. The *Heads* on the top of the *Stalk* and *Branches* are scaly, not surrounded by small *Leaves*, as the former, with deep *Saffron-coloured Flourishes*; to which succeed several oblong hard smooth white *Seeds*.

The first is *indigénous*, growing among hard ground, rubbish of old ruinous Walls, also on dry sandy and gravelly banks. The rest are either sown in the Gardens or Fields.

Virtues and Uses.

1. *Ladies Thistle* is not much used: Its tender *Leaves* are used by some as a delicious Green for a boil'd *Sallad* in the Spring. The *Seeds* are esteem'd *aperient* and *sudorifick*; they are used in *Emulsions* for the *Dropsy*, *Rheumatism*, and *Pleurisy*. Four Ounces of the Juice is recommended for a good *Febrifuge*, drank up at the beginning of the *Fit*.

2. *Carduus Benedictus* has been esteem'd formerly for its excellent *Virtues*; 'tis reckon'd *Sudorifick*, *Cordial*, and *Alexipharmick*, more of modern Use in some Places than others. The *distill'd Water* is prescrib'd in *cordial sudorifick Mixtures* for continued *Fevers*. Because of the bitter Taste, they infuse the dry *Leaves* among warm *Water*, to become nauseous to the Stomach at the taking of an *Emetick*. *Carduus Posset*, with White-wine drank hot, is a good Remedy to ease *Cholick Pains*, and to provoke *Sweating* in violent *Rheumatisms* and *Pleurisies*. The *Seeds* are esteem'd *aperient*, and are either prescrib'd in *Powders* for the *Gravel*, or drank in *Emulsions* in the above-named Cases. It seems to partake of the same *Virtues* with *Fl. Chamæmeli*, and may be prescrib'd along with them. The *Seeds* are often in *Ingredients* in *Materials* for *medicate Infusions* in *Wine* and *Ale*, and with the *Ingredients* for *Decoctum Amarum*. Either *Leaves* or *Seeds* of *Atractylis* are fit for the same *Uses*, and the *distill'd Water* is substituted for that of *Carduus Benedictus*.

4. I could never be sensible of the *purgative Quality* assign'd to the *Sem. Carthami*; I look upon it as an *Aperient* with the rest; it enters the *Elect. Diacarthamum*, which is reckoned an *Hydragogue*: its chief use is for *Drinks* for *Horses*. In a word, I look upon all these to agree in their *Virtues* as in their *Characters*; but as *Carduus Benedictus* is the more potent, so it is deservedly most esteem'd.

IV. *Carum*.

Carum five *Carvum* Raij Hist. 446. Synopf. Stirp. Britt. 3, 214. *Carui*, Cæsalpin. 291. Tournef. Instit. 50. *Carum* five *Carvi* Moris. Hist. 3. 296. Umbell. 24. *Carvum prætense offic.* C. B. 158. *Caruus* J. B. 3, 2, 27. *Carum* Dod. Pempt. 399. Caraway, or rather *Carui*.

The *Tribe*.

This, by all Authors, is one of the umbelliferous Plants, with small striated *Seeds*; to which Boerhaave justly adds *Seminibus odoratissimis*.

Description.

From a *carnous* sweet-tasted annual Root, the dark green *pinnated* and variously dissected Leaves (the *Pinnæ* without Pedicles or *Foot-stalks*) do arise: those at the bottom are spread forth on the Ground. The branched striated smooth jointed *Stalks*, about a foot or a foot and a half high, support the white flat *Umbells* on the top, each with bifid or heart-like *Petals*, with their *Apices* bended inwards; to which succeed the longish small gibbous and striated *Seeds* of a fragrant *odoriferous* *Smell*.

It grows abundantly in most of the Pastures of *Holland* in *Lincolnshire*, *Norfolk*, and at *Hull* in *Yorkshire*. Mr. James Sherard observ'd it plentifully in *Christ-Church College Meadows Cambridge*.

Virtues and Uses.

This produces one of the four larger hot *Seeds* in the Shops; partakes of the same *Virtues*, and is used promiscuously with the *Sem. Anisi*; 'tis one of the greatest *Carminatives* or *Discussers* of Wind in the Shops; its *Uses*, as a *Corrective* for *Senna*; *Carminative Clysters*; most Compositions for discussing of *Wind*, in *Seed Cakes*, *dry Confections*, and *Candies*, &c. are so well known, that I need only name them.

V. *Caryophyllata*.

Caryophyllata C. B. 221. Tournef. Instit. 294. Hist. des Plantes, 254. Moris. Hist. 2, 430. Raij Hist. 606. Synopf. Stirp. Brit. 3.

253. *vulg. fl. parvo luteo*, J. B. 2, 17, 398. Boerh. Ind. 42. Avens or Herb-Bennet.

The Tribe.

This Plant is by *Morison* placed among the *Pentapetalæ fibrosa radice*; by *Tournefort* among the *Flores Rosacei*; or where there are several Petals placed in a Circle, or disposed like those of a Rose. By Mr. Ray it is said to be *polyspermos seminibus nudis*, called by *Boerhaave* *Gymnopolyspermos*.

The Description.

From a carnos Root soon becoming fibrous, it sends forth several rough, somewhat hairy, dark green serrated *Leaves*; those nearest the Root doubly or triply pinnated, or conjugated upon the *Pedicle* or Midrib, with an odd one largest at the Extremity: Amidst the bottom *Leaves* arise the small branched Stalks, one or two Foot high, adorn'd with three small Lobes of *Leaves* at each branching, without foot-stalks, rough dark green and serrated. At the top of the *Stalk* and Branches appear the small yellow *rosaceous Flowers*, from a *monophyllous Calyx*, deeply divided into ten *Segments*, with numerous *Stamina* and *Apices*; to which succeeds a rough globulous *Fruit*, compos'd of several naked *Seeds*, endowed with several rough hairy stiff Filaments adhering to the *Cloaths*, like so many Burrs: The Root is perennial.

It grows at the sides of Hedges and shady Places, of Coppices and Woods, flowering in May and June.

Virtues and Uses.

Its Root is only used, being *aromatick*, *stomachick*, and *cordial*; 'tis moderately *astringent*, *vulnerary* and *detersive*; 'tis said to be good for the *Rheumatism*, and referating of *Obstructions* of the *Liver*: It consists of *tenuous* and *subtile Particles*, has an *aromatick Taste* and *Smell*, like *Cloves*: 'Tis a good Ingredient in *medicate Infusions* for *Wine* or *Ale*. An Infusion of the dry'd *Roots* alone, in either of them, and drank in a Morning, gives an excellent Relish, and proves a very good *Stomachick*.

VI. *Caryophyllus ruber, Tunica sive Vetonica.*

Caryophyllus rub. flore simplici & multiplici C. B. 267. Tournef. Instit. 329. Raij Hist. 987. *Altilis maj.* Morif. Hist. 2, 561. *Betonica Coronaria* f. *flos Caryophylleus* J. B. 3, 29, 327. Clove Gilly-flower.

The Tribe.

This Plant is class'd among the *Pentapetalæ Unicapsulares* by Morison; Mr. Ray calls them *Pentapetalæ Vasculiferæ*; Boerhaave, *Monangiospermæ*; Tournefort looking upon *petalis in orbem positis* to be of too large an Extent for one Class, divides them into three; *Rosacei*, as in the last; & *Umbellatæ*, otherwise called *Umbelliferæ*, and *Caryophyllei*, from this *Caryophyllus*, whose constituent Character is *petalis ex imo Calyce tanquam e tubo quodam emergentibus*: to which may be added, that all of them have *Folia simplicia acuminata nunc latiora alias angustiora sæpe graminea caulibus frequenter nodosis*.

The Description.

From a fibrous Root there arise many Stolones or Shoots, compos'd of short or thick-set Joints, from each of which arise by Pairs several long narrow cæsius or blueish Grass-like Leaves, longitudinally concave within, and convex without, like the hollow-bladed Swords; the Stalks arising in the middle are one or two Feet high, divided into a few Branches at the top, with Leaves by Pairs from the Joints at long Intervals. The Flowers consist of a tubulous or cylindrical round Calyx, about half an Inch long, guarded at the bottom by two sharp short-pointed Segments, more or less, according to the bigness of the Flower, opening into five pointed Segments, from whence break forth five Petals, arising from the bottom of the Tube, continuing narrow until at the top of the Calix they are expanded into five broad Portions, flat at the Extremity, notch'd fimbriated or dented, bending outwards, with ten Stamina, surrounding an oblong or conical Embryo fructus, endow'd with two Styli, crooked or bending outwards. This afterwards becomes a cylindrical or conical Fruit or Capsula, full of cornered Seeds, black when ripe.

Virtues and Uses.

Of all the Variety of Colours and elegant Stripes, with which this Plant becomes so ornamental in Gardens, that with the deep scarlet

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and

and intense Clove Smell, is preferr'd for Physical Uses: The pick'd *Flowers* afford an agreeable *Tincture*: Its *Syrup* with double Sugar is a good Ingredient in most *Cordials*. The *Conserve* with triple Sugar is a convenient Menstruum for *Bolus's*. The dry'd *Flowers* are one of the *Flores Cordiales*, and fit for *Ptisans* in *Fevers*.

VII. *Castanea*.

Castanea J. B. I. 7. 121. *sativa* C. B. 419. Tournef. Instit. 584. Raij Hist. 1381. The Chesnut Tree.

The Tribe.

This is one of the juliferous Trees, *flore a fructu remoto in eadem planta*.

The Description.

This noted *Tree* growing to a great Age, and arising to a great Height and Bigness, has large stiff shining *Leaves*, about two Inches broad, four or five Inches long, nervous, ferrated round the Edge, and pointed. Its *Catkins* are small, about two Inches and an half long, with the *male Flowers* consisting of a *pentaphyllous* little Calyx furrounding numerous *Stamina* and *Apices*, thin set upon the *axis medius* or *Midrib*. In other Places it has *hermaphrodite Flowers*, with a *Calyx* and *Stamina* furrounding the *Ovarium*, which afterwards becomes a round prickly or thorny *Fruit*, which opening into four Portions contains that called the *Chesnut*.

Virtues and Uses.

Its Uses in Mechanicks are well known; its Nut, the medicinal Part, is seldom used in Physick; while raw, it may be eat by such as are subject to the *Flux* or *Bloody Flux*, it being next to the *Acorns* for Astringency, which is much abated by roasting of it.

Cataputia major vide *Ricinus*.

Cataputia minor vide *Tithymalus*.

Cauda Equina vide *Equisetum*.

VIII. *Centaurium majus*.

Centaurium maj. folio in plures lacinias diviso C. B. 117. Tournef. Instit. 443. Raij Hist. 329. *maj.* Jugland. fol. J. B. 3, 25, 38. Moris. Hist. 3, 131. Great Centaury.

The Tribe.

This is another of the *Capitatae* or *Flores flosculosi* of Tournefort.

The Description.

This Plant has various *Leaves*, dark green above, whitish below; some are long large whole and pointed, others deeply cut into several Sections, both serrated about the Edges, with a strait tall branched *Stalk*, about four or five Foot high, adorn'd with less deep cut *Leaves*, and supporting large scaly *Heads*, full of purplish *Flourishes*, and containing oblong shining *Seeds* cover'd with *Down*.

Virtues and Uses.

The Root is said to be *vulnerary* and *astringent*: whatever esteem the Ancients might have of it, 'tis not much in modern Use.

IX. *Centaurium minus*.

Centaurium minus, C. B. 278. Tournef. Instit. 272. *min. fl. purp.* J. B. 3, 25, 359. Raij Hist. 1091. Hist. des Plantes 68. *min. rub.* Moris. 2, 566. Lesser Centaury.

The Tribe.

Boerhaave places this among the *Diangiæ Polyspermæ*; Ray among the *Pentapetaloides Vasculiferæ*; afterwards among the *Flores monopetali regulares fructu sicco Bicapsulari*: Tournefort among the *monopetali infundibuliformes*.

The Description.

'Tis an annual Plant, with a small strait *Stalk*, about half a Foot high, beset with small oblong *Leaves* by Pairs, like those of *St. John's Wort*. The Flowers by Tufts are *monopetalous*, deep divided, purplish red,

red, perforating the bottom, arising from an oblong or tubulous *Empalement*, divided at the top into five pointed *Segments*. The *Conical Embryon* has a long *Stylus*, and is surrounded by five *Stamina*. The conical or cylindrical *Fruit*, divided into two *Pouches*, pours out fine small *Seeds*, by its pentagonal opening at the top.

'Tis very frequent in dry Meadows and Pastures; 'tis sometimes seen with a white Flower. The Flower is seldom spread forth, but when the Sun shines very bright.

Virtues and Uses.

Tho' upon account of the Difference betwixt *Unicapsular* and *Bicapsular Fruit*, and a *Flower* more or less deeply divided, *Gentiana* is plac'd at a distance by Authors from this LESSER *Centaury*, yet there is such a Resemblance between their *facies externa*, *Taste* and *Virtues*, that where the one is prescribed, the other may be admitted: 'Tis one of the most potent *Bitters* in the Shops; *stomachicæ*, *febrifuge*, *vermifuge*, and *hysterical*, and may be an Ingredient in all manner of *Decoctions*, *Infusions* and *Tinctures* for such Purposes: 'Tis a most powerful *Menses* & *Lochia* *movens*. I have known the frequent Use of it in a *Tea* very beneficial in such Cases; nor is it less effectual in *intermittent Distempers*; it referates the *Obstructions* of the *Viscera*, and is a good Medicine in the *Jaundice*; it enters the *Infusio amara* in the dispensatory and *medicate Infusions* for *Wine* or *Ale*.

Cepa vide *Allium*.

X. *Cerasa nigra & rubra.*

Cerasus major & *sylov. fructu subdulci*, & *nigro colore inficiente* C. B. 450. *sylov. fructu nigro* J. B. 1, 2, 208. Tournef. 625. Raij Hist. 1537. The common Black Cherry.

Cerasus sativa rotunda rubra & *acida quæ nostris Cerasa sativa* C. B. J. B. Tournef. Raij. &c. Common red Cherry.

The Tribe.

Boerhaave places these among the *Dicotyledones Arbores*: Tournefort among the *Trees* with a *rosaceous Flower*: Mr. Ray among the *pruniferous Trees*. They are most common, and least of all the esculent Stone Fruits.

The

The Description.

These Trees are so well known, that they need no Description their roundish sharp-pointed *Leaves* are serrated round the *Edges*: Their *Pentapetalous* *rosaceous* *Flowers* are push'd forth as soon, or rather sooner, than the *Leaves*; the white *Petals* arise from the Interstices betwixt the five *Segments* of the cavous *pentaphyllous* *Calyx*. Their *Stamina* are very numerous: The *Stylus* upon the top of the *Embryo* is but small. Their Male exceed the *hermaphrodite* *Flowers* very much in number, and are first blown. The *Fruit* of the *Black Cherry* is less, more oval, and sweeter to the Taste, upon longer *Pedicles* than those of the *red*, which are rounder larger and somewhat sourish; the thin *Stones* contain a proportionally big *Kernel*.

Virtues and Uses.

Black Cherry Water is prescrib'd in most *Cephalick* and *Epileptick* Mixtures: The *Tincture* of *Black Cherries* with *Brandy* is much drank as a *cordial Liquor*. The *Jelly* of the *Red Cherry* is used to quench the Thirst, in hot and continued *Fevers*: The *Kernels* bruis'd and infus'd in *Brandy* make a good *Ratasia*: The yellowish *Gum*, which distils from the wounded *Trunk* and *Branches*, makes a finer Sort of *Gummi Arabicum*. Both these *Cherries* are said to grow spontaneously in the *Woods* and *Hedges*; but 'tis probable their *Stones* have been convey'd thither from *Gardens* and *Orchards* by the *Birds*. Mr. *Martyn* has observ'd the *Black Cherry-Tree* in *Bishop's Wood* and on *Hamstead Heath*.

Ceterach vide *Asplenium*.XI. *Chærefolium*.

Chærophylum sativum C. B. 125. Tournef. Instit. 314. *Chærophylum* J. B. 2, 27, 15. *Chærefolium sativum* Moris. Umb. 46. Hist. 3, 303. Raij Hist. 430. *Chærefolium* Dod. Pempt. 700. Chervil.

The Tribe.

This is an umbelliferous Plant, with oblong small striated *Seeds*.

The *Description*.

This annual *Plant* arises a Foot high, with deeply divided *Leaves*, like those of *Myrrhis*, but much fewer small white *Umbells*, to which succeed small long striated *Seeds*; 'tis like the Beak of some *Birds*; 'tis sown in Gardens.

Virtues and Uses.

'Tis frequently eat in cold *Sallads* in the *Spring*; but its fragrant Smell and sweetish Taste is disagreeable to some: 'Tis said to be very *diuretick* and *aperient*; some chop the *Leaves*, and, being mix'd with fresh Butter, apply it to the lower *Belly*, or the *Os Pubis* in a Suppression of *Urine*: 'Tis not much used in the Shops.

XII. *Chamædrys* sive *Triffago*, *Scordium* & *Scorodonia* sive *Salvia Sylvestris*.

1. *Chamædrys maj. repens* C. B. 449. Tournef. 204. Hist. des Plantes 69. Raij Hist. 527. Moris. Hist. 3, 422. *vera vulgo existimata* J. B. 3, 28, 288. Common Germander.

2. *Chamædrys palustris canescens* sive *Scordium Officinarum* Tournef. Instit. Hist. des Plantes 414. *palustris Allium redolens* Moris. 3, 413. *Scordium* Raij Hist. C. B. J. B. 3, 28, 292. Water Germander.

3. *Chamædrys fruticosa sylv. Melissæ fol.* Tournef. Instit. Hist. des Plantes 71. *Chamædrys elatior Salviæ fol. flore ochroleuco* Moris. Hist. 3, 423. *Scorodonia* sive *Salvia sylv. C. B. Scordotis* sive *Scordium folio Salviæ* J. B. 28, 292. Wood Sage.

The *Tribe*.

These are of the unilabiated Genera. See *Bugula*, Decad IV.

The *Description*.

1, *Germander* has a fibrous very running *Root*; the *Stalks* are low, lying much on the Ground, woody after the first Year, rough, green above and white below; *slash'd Leaves*, like those of an *Oak*, arise from the rough square Joints by pairs: The *Verticillæ* of purplish red unilabiated

biated or one-lip Flowers are frequent on the top of the *Stalk* and *Branches*. It is planted in *Gardens*.

2. *Water Germander* is much like the former; its *Leaves* softer and more hoary; its *Stalks* not woody, lying on the *Ground*, and sends forth radical *Fibres* from the *Joints*. The *Flowers* like the former; it has a *Garlick Smell*; 'tis said to grow plentifully in *marsh Places* in the *Isle of Ely*.

3. *Wood Sage* arises with a woody square *Stalk*, about one or two Foot high; its rough large *Leaves* by pairs resemble those of *Sage*; its larger yellow lipp'd *Flowers* are rather spiked than whorled upon the top of the *Stalk* and *Branches*; its fibrous woody *Root* runs, but not so much as *common Germander*.

Virtues and Uses.

1. *Germander* is an *Incider*, and attenuates gross and viscid *Humours*, referates *Obstructions* and provokes *Urine* and *Sweat*; 'tis esteem'd good in the *Jaundice*, recommended in *tertian* and *quartan Agues*, also in the *Scurvy*; 'tis also said to assuage *goutish* and *hæmorrhoidal Pains*; it may be drank in a *Tea*, or infus'd and drank in *Wine* or *Ale*.

2. *Scordium* is esteem'd a good *Alexipharmick*, a potent *Sudorifick*; they used to strew it upon *dead Bodies*, to preserve them from *Corruption*. 'Tis said to be *vulnerary* and a *Vermifuge*. A *Ptisan* is made of it for *malignant Fevers*; an *Extract* is prepar'd of the *Juice*; it enters *Diascordium Acetum Theriacale Theriaca Androm. Mithrid. &c.*

3. *Wood Sage* is esteem'd *aperient*, *diuretick*, *diaphoretick*, *vulnerary* and *hysterical*; 'tis prescrib'd for the *Dropsy*, *Jaundice*, *tertian Agues*, and *Lues Venerea*. I have observ'd at *Bugula*, that most of the one-lipp'd *Plants* are *substringent*, and do not consist of such subtile *Particles* as the *bilabiated*.

XIII. *Chamæmelum, Cotula foetida & Matricaria.*

1. *Chamæmelum flore simplici & pleno odoratissimum repens* J. B. 3, 26, 116. Raij Hist. 353. Moris. Hist. 3, 34. *Chamæmelum sive Leucanthemum* Diosc. odoratius C. B. 135. Tournef. Instit. 44. *Garden Chamomile*.

2. *Chamæmelum foetidum* C. B. 135. Tournef. *Cotula foetida* J. B. Raij Hist. *annuum præcox foetidum semine aureo*. *Stinking Chamomile*.

3. *Matricaria vulg. sativa* 133. Moris. Hist. 3, 32. Tournef. Instit. 494. *vulg. min. Parthenium* J. B. 3, 26, 129. Raij Hist. 348. *Feverfew*.

The

The Tribe.

These are a Continuation of the *Corymbiferæ Radiatæ*.

The Description.

1. *Garden Chamomile* is a low creeping Plant, sending forth radical Fibres from each Joint, by which it overspreads the whole Surface of the Earth where 'tis planted; the Leaves are very fine cut and pinnated, in the manner of *Tansy*, but much less. The radiated Flowers arise here and there upon long Pedicles: In the single, the Corona is white and the Discus yellow: In the double, the whole consists of white half Flourishes, with scarce any conspicuous Corona. The whole Plant is odoriferous, though of a very bitter Taste. Those Plants which have produced the Flower decay, and the Plant is propagated by such creeping Shoots as have not yet flower'd.

2. *Stinking Chamomile* is an annual Plant, rises high with a dark green branched Stalk, the Leaves much thinner set and larger Pinnæ; the Flowers rather larger than the other; 'tis scarce discernible from the *Chamæmelum sylv. inodorum*, but by the Smell; tho' I have for the most Part observ'd its Pinnæ much larger, and darker green than the other.

3. *Feaverfew*, from a fibrous and woody white Root, arises with strait branched Stalks one or two Foot high, adorn'd with pinnated light green alternate Leaves, consisting of two or three dented Pinnæ with an odd one at the end: The Flowers on the top, upon long Pedicles in Tufts or Umbells, are corymbiferous white radiated; the Radius not so large as the other; the yellow Discus much about the same Bigness.

The *Roman* or sweet-scented *Chamomile* grows so plentifully in *Cornwall*, that, according to Mr. Ray, one may smell it at a great distance upon the Road. *Stinking Chamomile* is not so frequent as the *Chamæmelum inodorum*, but is sometimes to be observed in *Corn-fields*; it sometimes varies into a double Flower, as many of the *Leucanthemums* and *Chrysanthemums* do; but being an annual, 'tis a question whether it can be so propagated by the Seed. *Matricaria* grows frequently wild, in rough sandy gravelly and craggy Places.

Virtues and Uses.

Both Herb and Flower of *Chamomile* are used; the Herb in the insolated or macerated Oil; also in Fomentations and strengthening Ointments made

made with fresh *Butter* in *May*; for rickety Children to strengthen their *Joints*. The *Flowers*, tho' odoriferous and sweet-scented when green, are one of the most vehement *Bitters* in the Shops; 'tis *stomackick*, *hysterick*, *febrifuge*, and *vermifuge*. A Posset of *Chamomile Flowers* with white *Wine* drank hot, is a speedy Remedy for the *Cholick*; a *Tea* of *Chamomile Flowers* is a most effectual Remedy in the *obstructed Menses*. The *Powder* of *Chamomile Flowers* in an *Electuary* is an excellent *Febrifuge*: *Chamomile Flowers* are very fit to be prescrib'd in *Carminative Clysters*. All the *stomackick bitter febrifuge Ingredients* to be infus'd in *Wine* or *Ale*, have *Chamomile Flowers* for one; it enters the *Infus. Amar.* in the *Dispensatory*. The *aq. fl. Chamæmeli comp.* is an effectual Remedy *ad Sudores promovendos post partum*. *Stinking Chamomile* is seldom used in *Physick*. *Matricaria* has the same *Virtues* with *Chamomile*, but not so potent; 'tis especially recommended *ad Menses & Lochia promovenda*; 'tis also good in *Fomentations* along with *Chamomile*, and is a frequent *Ingredient* in *hysterical Infusions*.

XIV. *Chamæpitys* sive *Iva Arthritica*.

Chamæpitys vulg. folio trifido flore luteo C. B. 245. Moris. Hist. 3, 425. Tournef. Instit. 203. *vulg. odorat. fl. luteo* J. B. 3, 28, 295. Hist. des Plantes 326. *Ajuga sive Chamæpitys Dioscoridis* Lob. Icon. 382. *vulg. Raij Hist.* 573. *Ground Pine*.

The Tribe.

This is another of the *Unilabiatae*.

The Description.

'Tis a low *Plant*, not above two Inches high; from a large woody deep running *Root*, it sends forth numerous *Branches*, thick beset with short *Leaves* by pairs, each of which are narrow short and triply divided at the *Extremity*; the thin-set *Whorles* of *Flowers* by pairs, one on each side, for the most part are *yellow* and *unilabiated*; the one dependant lower *Lip* is triply divided, the middle largest and bifid. The *tubulous Calyx* is bulg'd or protuberant, containing four *Seeds* soon dropping when ripe, by which the Species is *spontaneously propagated* in the *Gardens*. The whole *Plant* is rough, blueish, of an high resinous *Smell*. 'Tis an *annual Plant*; but, because the *Plant* sometimes springs up in

the *Autumn*, endures the *Winter*, in which Sense it may be called perennial: Its *Stalks* then become *woody*; which makes Mr. Ray doubt, whether it should be called a *Suffrutex*: 'Tis said to grow in lay Grounds, but rarely; as about the Borders of *Triplow Heath* in *Cambridgeshire*; and in several Places of *Kent*; as about *Rochester*, *Dartford*, &c. Mr. Martyn has observ'd it plentifully in some Fields about *Chatham*.

Virtues and Uses.

'Tis esteem'd good for the *Gout* and *Sciatica*, on which Account 'tis call'd *Iva Arthritica*; 'tis said to be *nervine*, *antiparalitick*, and *vulnerary*; 'tis look'd upon to be *aperient*, a great *Deobstruent*, dissolving coagulated *Blood*, good in the Difficulty of *Urine*, a Provoker of the *Menses*, *Partus* and *Lochia*. It seems to be of a resinous Texture, by which it may be a good *Aperient*, and by its balsamick *Particles* it may be a good *Vulnerary*; but it seems to be *subastringent* with the other *unilabiated Plants*, and not so subtile as most of the *bilabiated* ones are: It enters *Syr. de Artemis.* of the old Dispensatory, and *de Chamæpity*, both laborious Compositions.

Cheiri vide Leucoium.

XV. *Chelidonium majus.*

Chelidonium maj. C. B. 144. Tournef. Instit. 231. Moris. Hist. 2, 251. Dod. Pempt. 48. Raij Hist. 888. *Chelidonia* J. B. 2, 30, 482. Raij Synops. Stirp. Brit. 2, 181. 3, 309. Boerh. Ind. 305. Greater Celandine.

The Tribe.

This *Plant* is variously distributed by the several Authors: *Morison* places it among the *Tetrapetalæ Siliquosæ Bicapfulares*, an anomalous *Class*, distinct from the regular *Tetrapetalæ Siliquosæ*; and in this he's follow'd by *Boerhaave*, who makes a particular *Class* of *Plantæ Siliquosæ*, containing a long membranous Fruit, with one or more Seeds differently situated in the several Plants, variously digested, some having many Seeds in one undivided Pod, without any Distinction into *Valves* or *Pouches*, and a great Variety of the Structure of *Flowers*. 2. There are either *Siliquæ* Pods, or *Siliculæ* little Pods. 3. The irregular papilionaceous Siliquous Plants, *Boerhaave's Ind.* 1, 304. Mr. Ray's *Metb.*
Emend.

Emend. classes the *Tetrapetalæ Anomalæ* together, and continues to make *Chelidonium maj. a Papaver Corniculatum*. Tournesort, being fond of his own *Flores Rosacei*, not finding how to make *Chelidonium maj.* one of them because of the Resemblance with his *Flores Cruciformes*, brings it to make a particular Section, and sends *Papaver Corniculatum* to make up one of the *Flores Rosacei*, by the Name of *Glaucium*, on account of the largeness of the *Petals*, by which it comes so near to a *Papaver*, which he has plac'd in the same *Class*.

The Description.

From a simple carnosus *Root*, divided into several large Portions, deeply fix'd in the Ground, there arise several blueish green *Columbine* like *Leaves*, frequently divided into five larger *Segments*, the odd one being biggest. The small much jointed and branched *Stem* arises one or two Foot high, with two small *Leaves* at each *Joint*; the *Flowers* on the top in thin Clusters, upon a common *Pedicle* three or four Inches long, supported by so many shorter ones, are *Tetrapetalous*, enclos'd in a *two-leav'd Empalement*, which upon its opening soon fall off with several *Stamina*; the *unicapsular bivalve Pod* upon opening pours out small black shining roundish *Seeds*: The plentiful Juice of this Plant is yellow instead of white or milky, by which it differs from the *Papavers*. The *Root* is perennial; it grows in a rough gravelly Soil, and at the *Root* of *Hedges* and other shady Places near to Towns and Villages.

Virtues and Uses.

'Tis esteem'd *aperient* and *diuretick*, good for opening of *Obstructions*, particularly recommended in the *Jaundice* (perhaps by the *Signature*) and for Diseases of the *Eyes*; it abounds with *acrimonious saline Particles*, by which it may abrade the *Pterigium sive pannus oculorum*, the *Film* of the *Eyes*, but should be cautiously used: The *Root* is prescrib'd; also the *Leaves*, whose *Juice* is the chief Ingredient in the *aq. Mirabilis*.

XVI. *Chelidonium minus*, & *Hepatica nobilis* sive *Trifolium aureum*.

1. *Chelidonia rotundifolia minor* C. B. 309. *Chelidonium minus* Raij Hist. 579. *Scrophularia minor* sive *Chelidonium minus* J. B. 3, 30, 468. *Ranunculus præcox rotundifolius granulata radice* Moris. Hist. 2, 446. *vernus rotundifolius*.

tundifol. minor Tournef. Instit. 386. Hist. des Plantes 33. Lesser Celandine.

2. *Hepatica nobilis fl. cæruleo simplici* Hort. Lugd. Bat. 310. *Trifolium Hepaticum simplici flore* C. B. 330. Moris. Hist. 2, 433. Raij Hist. 580. *Trifolium Hepaticum sive Tridentatis Herba* J. B. 2, 17, 389. *Ranunculus tridentatus vernus fl. simplici* Tournef. Instit. 286. Noble Liverwort.

The Tribe.

That these are Congeners appears from their manner of growing, Time of flowering, Fashion of the Flower; but what particularly belongeth to both is the *triphyllous Calyx*, by which they differ from all the other *Ranunculi*, to which they either belong or are near of Kin. *Morison* has a distinct Chapter of *Hepatica*, and joins *Chelidonium minus* with the *Ranunculi*. *Tournefort* makes both *Ranunculi*. *Ray*, *Herman*, and *Boerhaave* place them immediately before the *Ranunculi*, but distinguish them by their ancient Names: They are *Gymnoclypermæ* by *Herman*, and *Boerhaave*; *Semine nudo polyspermæ* by *Ray*; *Flore Rosaceo* by *Tournefort*.

The Description.

1. *Lesser Celandine* is a low Plant with white Joints and knobby *Roots*, *granulata Radice*: The *Leaves* upon long *Pedicles* lie flat on the Ground, smooth shining broad at the Base, roundish and a little pointed. The *flowering Stems* are small, low, sometimes branched, each supporting one *Flower* with thin-set less-pointed *Leaves* upon the *Stalk*, or bosom of the *Branchings*: The *Flowers* are *rosaceous yellow*, for the most part, *octopetalous* with a *triphyllous Empalement*; the aggregated *Pistillum* in the Center consists of several small *Embryons* surrounded by many yellow *Stamina* with their *Apices*, which afterwards compose a globular *Fruit* consisting of naked *Seeds*: 'Tis frequent in Pastures, moist and shady Places, flowers early in the Spring; after which both *Leaf* and *Flower* decay.

2. *Noble Liverwort* keeps its *flowering* time with the former; the crumbled up unblown *Flowers* appear before the *Leaves*, with their *Heads* declining upon long round hairy *Foot-stalks*, which afterwards are expanded and appear very numerous. The *Leaves* also, upon proper *Foot-stalks*, arise, in the Intervals, broad and whole at the Base, divided into three large pointed Lobes or *Portions*, by which they resemble the *Liver* of some *Animals*, and from whence it derives the Name. The *Flowers* are *purplish red*, *octopetalous*, with a *triphyllous Calyx*

lyx with the former; the numerous *Stamina* with whitish *Apices* surround the aggregated *Pistillum*, which becomes like the *Polyspermous Fruit*, compos'd of *naked Seeds*: The *Roots* are *fibrous*, the *Plant* bushy and *perrennial*: The *Leaves* continue longer than the former; the *Colours* various, such as *purple*, *red*, *flesh-colour'd*, *white*, with a *single* or very *double Flower*, consisting as it were of many single *Floscules*, save that each has not a proper *Capillamentum*; 'tis a very ornamental *Flower* in the *Gardens* in the *Spring*, and is no where indigenous in *Britain*, by what I can learn.

Virtues and Uses.

1. *Lesser Celandine*, on account of the Resemblance in granulated *Knobs* of the *Roots* with the *Piles*, is esteem'd good for that Malady, by the Signature. I rather attribute its Virtue to its Affinity to the *Ranunculi*, most of which are acrid and hot to the Taste, by which it may answer what its design'd for. The contus'd *Leaves* apply'd to the *Piles* are said to discuss them; and I have known the *insolated Ointment*, with *Hog's Lard* or fresh *Butter*, successfully made use of, to discuss *Scrophulous Tumours*, and what they call the *blind Hemorrhoids*.

2. *Noble Liverwort* is not much used in *Physick*: The *Leaves* are recommended as *vulnerary*; but I rather believe it partakes of the same Virtues with the former.

XVII. *Cicer.*

Cicer sativum C. B. 347. Tournef. Instit. 389. Moris. Hist. 275. *arietinum* Dod. Pempt. 529. J. B. 2, 17. 292. *sativ. sive arietinum nigrum rubrum vel album* Raij Hist. 719. Chick Pease.

The Tribe.

'Tis a *papilionaceous Plant*, with a broad short inflated *uncicapsular Pod*.

The Description.

'Tis an annual *Plant*, with strait, not scandent, *Stalks*, with small pinnated alternate *Leaves*, each consisting of three or four pair of small broad *Pinnæ*, crenated round, nor directly opposite, with an odd one. The *Flowers* are *papilionaceous*, to which succeed a rough broad short *Pod*, blown up like a Bladder, containing two or three cornered

H h h

turgid

turgid *Seeds* with an Eminence, by which they resemble a *Ram's Head*; 'tis sown in Gardens.

Virtues and Uses.

'Tis esteem'd *nutritive* with other *leguminous Plants*, and therefore recommended as augmenting the *Lac* and *Semen*; 'tis also said to be *aperient* and *diuretick*; commended for a *Menses movens* & *factum pellens*. 'Tis used externally in *Cataplasms*, with other *Farines*, to suppurate critical Tumours; such as the *Parotids*, &c. 'Tis chiefly of the same Use with *Farina Fabarum*, *Lupulorum*, &c.

XVIII. *Cichorium hortense*, *Cichorium agreste* sive *sylvestre*, & *Endivia*.

1. *Cichorium sativum* C. B. 125. Tournef. 497. J. B. 2, 14, 1007. Morif. Hist. 3, 54. Raij Hist. 225. Garden Succory.

2. *Cichorium sylv. sive offic.* C. B. Tournef. Instit. Hist. des Plantes 327. Raij Hist. Synopf. Stirp. Brit. 3, 172. *sylv. & sativum* J. B.

3. *Cichoreum latif. sive Endivia vulg.* Tournef. Instit. Raij Hist. vulg. Park. 774. *Intybus sativa latif. sive Endivia vulg.* C. B. Morif. Hist. *Intybus vulg. sativa sive Cichorium domesticum.* Tabern. Icon. 173. Common Endive.

The Tribe.

This is the first of Tournefort's Classes with *semi-flosculous Flowers*. Morison divides this Kind of compound Flowers into *Laëtescentes* & *non pappescentes*, *pappescentes Laëtescentes* and *pappescentes non Laëtescentes*. Boerhaave gives them all the general Title of *planipetalæ Gymnomonospermæ*. Mr. Ray calls them *planipetalæ natura plenæ Laëtescentes*; and these he divides into *seminibus papposis* & *solidis*. The Character of these here is, that they have *semiflosculous Flowers*, or such as only consist of *plain Petals* with a *milky Juice* and *Seeds*, not *pappous*; to call them *solid* is no wise necessary, because the *Seeds* of the *Capitataæ*, or any other Plant, with a *pappo* or *Down*, are equally *solid* as these. I have observed, that all the *Semifloscles* or *half Flourishes* have a *Capillamentum* and *Vagina*, as well as the *Floscles* and *Flourishes*.

The

The Description.

1. 2. Both the *Garden* and wild *Succory* have a *perennial Root* more fleshy, parenchymatous, simple, and endow'd with *fewer Fibres* in the one than the other; the bottom *Leaves* are oblong slash'd or tooth'd, like those of *Dandelion*: The branched *Stalk* arises strait, two or three Foot high, adorn'd with less *Leaves* without *Footstalks*, less and sharper tooth'd. The *Flowers* on the upper part of the *Stalk* and *Branches* upon very short *Footstalks*, are *semiflosculous Flowers*; to which succeed several *unibilabiated* wedge-like oblong cornered *Seeds* contained in the *Calyx*, now contracted into a *Pericarpium*. J. B. was not much deceiv'd, when he look'd upon the *Garden* and wild *Plant*, as only differing by *Culture*; for the *Root* of the *wild* is only more fibrous and woody, the *Leaves* darker green and rough, the *Stalks* not so high and more bended; so that the *Soil* and *Management* seems only to be wanting, to make the one as good as the other; the one being usually sown in a kindly *Mould*, the other growing naturally in a rugged or rough sandy *Soil*.

3. *Endive* is an annual *Plant* two or three Foot high, with broad soft light green *Leaves*, roundish at the *Extremity* and dented: The *Stalk* is grosser, branched with less and narrower *Leaves*; the *Flowers* more numerous than the former, from the upper Part of the *Stalk* and *Branches*; to which succeed oblong, not *pappous Seeds* with the former; 'tis sown in *Gardens*.

Virtues and Uses.

The whole of these *semiflosculous* or *lactescent Plants* are endow'd with the same *Virtues*, may be promiscuously used and plac'd together, were it not for their distinctive *Notes*, and that some are more tender to the *Palate* than the other; all of them abound with a milky *Juice*, have an agreeable *bitterish Taste*, and are esteemed *Coolers*: These *Leaves* are much used in cold *Sallads*; but those of *Endive* being the tenderest are preferr'd, and are esteem'd equally good with *Lettuce*. *Endive Leaves*, may be blanch'd and eat with *Dandelion*. *Cichory Roots* boil'd pick'd and sliced, may be eat with *Betrave Roots* in the *Winter*. They are all esteem'd *aperient*, good in the *Hydropsy*, referating of *Obstructions*, and *hypochondriacal Cases*; they are also thought good *Vermifuges*; the distill'd *Water* is prescrib'd in *Mixtures* for *Worms*; as is the *Syr. de Cichoreo cum Reo* used as a good *purgative Syrup* on the same account. The *Rad. Cichorei* are used in *aperient Ptisans* for the *Hydropsy*. The *Seeds* of
Cichory

Cichory and *Endive* are among the less cold *Seeds* in the Shops. *Endive* is chiefly a *Pot-Herb*.

XIX. *Cicuta*.

Cicuta maj. C. B. 160. Tournef. Instit. 106. Moris. Hist. 3, 290. Umbellif. 18. Raij Hist. 450. J. B. 3, 2, 175. Common Hemlock.

The *Tribe*.

This is an umbelliferous Plant with small crested *Seeds*.

The *Description*.

Hemlock is an annual, or rather biennial *Plant*, since it seldom pushes forth the *flowering Stem* until the second Year: The hollow crested jointed *Stalks* arise to four or five Foot high; the large alternate dark green variously pinnated or deeply divided *Leaves*, either arise from the Pedicles from the *Root*, or adorn the *Stalk* and *Branches*; the flat white *Umbells* are large; the *Seeds*, gibbous or bulg'd on the outside, are short *striated* and of a grayish Colour: It grows very common in most Places in Dunghills, neglected Gardens, and other Places, near to *Villages* and *Houses*, where there is for the most part a fat Mould.

Virtues and *Uses*.

Providence has so ordered, that the most general Rules have their Exceptions; scarce any *Botanick Class* does more agree in their *Virtues*, than this *umbelliferous Tribe*, especially if their Notes and Characters have such a Correspondence, as there is in this and several others of its *Congeners*. If we consider *Carvi*, which if by the Division of the *Leaf*, colour of the whole Habit of the Plant, not the white *Umbell* excepted, the Bigness and Texture of the *Seed*, yet how far are their *Virtues* different, which are only pointed out by the heavy Smell of the one, and Agreeableness of the other. Another Instance of *Oenanthe aquat. succo viroso*, which has a great Resemblance to *Apium*, in the Taste of the *Roots* and Figure of the *bottom Leaves*, and when grown up resembles *Pastinaca*, by the *Plantæ facies*, to an undiscerning Person. I say, these are two great Exceptions from general Rules; for whereas their *Congeners*, and such as they seem to have the greatest likeness, have all the *salutiferous Qualities* can be expected from such a *Class*, yet these are thought

thought to have the most *pernicious* and *poisonous*. There are some, who assure *Cicuta major* is not *poisonous*, by the Experience of those who have by accident eat the *Root*; but few will venture to try the Experiment on purpose. The pernicious Effects of *Cicuta minor Petroselinio similis*, too frequently growing in most Gardens, have been made known to me by three or four Experiments: The one at a Marriage-Dinner in the Spring; a Gentleman who eat heartily of a Dish of green Broth at the Entertainment, sicken'd, swell'd very much, and dy'd of a sudden: It was suspected this *Cicuta minor*, being in plenty growing in the Kitchen-Garden, was the Cause of the Accident. A Gardiner making up a Parcel of green Herbs for a Diet-Drink to a young Woman; upon drinking it the first Time, she swell'd and dy'd: Her Acquaintance by chance tasted but a little of it, upon which I was called to her; I administred a Vomit; she had a plentiful Evacuation of ugly greenish Stuff, and was cured by *Alexipharmicks* and *Sudorificks*. This Plant grows most plentifully in the Gardens, whence the Herbs were brought. Being in company with another Physician at a Gentleman's House, he eat plentifully of a green Broth at Supper; he was seized with violent Gripings, purging and vomiting green all Night: We had no *Emetick* in the House, but upon giving of *Theriaca*, with some Drops of *Laud. Liquid.* he was reliev'd. In viewing of the Gardens next Day, we found this *Oenanthe* planted among the *Pot-Herbs*, and the Gardiner called it *Endive*; and *Cicuta minor* growing there among the *Parsley*, scarce look'd upon as a Weed, by which we reasonably conjectur'd the Gentleman's Illness might have proceeded from the *Leaves* of one of these Plants, being accidentally gathered along with the other *salutiferous Pot-Herbs*: so that the internal Use of *Cicuta* is much to be suspected. It seems to consist of very *acrimonious Particles*, from the Use they make of its Juice in washing and cleansing of cancrus and *Cacoethes* Ulcers. *Cicutaria aquat. maj.* five *Phellandrium*, an high tall Plant, common in the Ditches, is another Species no less suspected to be noxious than the other. *Zwelfer* has writ a large Treatise on these poisonous Plants.

XX. *Cinara*.

Cinara fol. non aculeato C. B. 383. Tournef. 452. Raij Hist. 299. *Carduus sive Scolymus minus spinosus* J. B. 2. 25, 28. *domesticus maj. Capitis squamis dispansis viridibus* Moris. Hist. 3, 157. Artichoke.

The Tribe.

This, another of the *Capitatae*, only differs from a genuine *Carduus*, by its want of Prickles, largeness of the *Head*, bigness of the *Squamæ* and *esculent Bottom*, or *Thalamus*.

The Description.

Though this *Plant* has a perennial soft *parenchymatous Root*, divided into large Portions running deep in the Ground; it should only be called *biennial*; for that Part of it which nourish'd the *flowering Stem* dies with it, after the *Fruit* is ripe, and the alive Root never sends forth the *flowering Stem* until the second Year. So that to preserve the *Fruit* in its full bigness, and from degenerating, is to dig so deep as to remove all the old Root in the Autumn, by which fresh new Roots more readily proceed against the Spring; after which lay an heap of new Mold round the Root, and without that lay the *Manure*, or *Horse-Dung* and *Litter*, to preserve it from the Winter *Frost* and *Cold*. The *Leaves* from this new *Root* lie in a Circle on the ground long large deep *slash'd*, or cut into large *Dentations*, almost into the *Midrib*: the whitish Colour more green above than below. The striated whitish gross round spongy or marrowy *flowering Stalk* arises strait and branched above three or four Foot high, with less alternate *Leaves*, supporting large round or spherical *Heads*, with thick broad *squamæ*, a thick *esculent bottom* or *Thalamus*, with proportional large purple *flourishes* which break forth after some time, to which succeed large oblong turgid greyish *Seeds*, lodg'd in a *Down*.

Whether by Art and Culture, or whether they have been imported, I'm not certain; but these *Artichokes* have encreas'd very much in their Bigness of late Years, for whereas formerly themselves did not much exceed half a Pound, and their Bottom not above one or two Inches Diameter. Now they may be had of four or five Pound, and their Bottoms five or six Inches Diameter. They are daily propagated by the *Root*, and with due Care may be preserv'd for several Ages in a *Garden*.

Virtues and Uses.

The nutritive Virtue of the *Bottoms*, together with the softer Part of the *Squamæ*, is well known. The Root is said to be aperient, but not much us'd in *Phyick*.

Citria Malus vide *Malus*.

XXI. *Citrullus, Colocynthis, Cucumis hortensis, Cucumis agrestis, sive Asininus, Cucurbita, Melo & Pepo.*

1. *Citrullus folio Colocynthis seeto semine nigro quibusdam Anguria* J. B. 2, 16, 235. *Anguria Citrullus dicta* C. B. 212. Tournef. Moris. Hist. 2, 28. Raij Hist. 643. Hort. Lugd. Bat. 45. *Anguria Cucumis Citrullus* Dod. Pempt. 664. Citruls.
2. *Colocynthis fructu rotundo maj.* Tournef. C. B. 313. *Colocynthis* J. B. 2, 16, 232. Dod. Pempt. 665. Raij Hist. 642. Moris. Hist. 2, 27. *Colocynth or bitter Apple, or Coloquintida.*
3. *Cucumis sativus vulg. maturo fructu subluteo* Tournef. C. B. 310. Moris. Hist. 2, 31. *Vulg.* Raij Hist. 645. Dod. Pempt. 662. *vulg. viridis* J. B. 2, 16, 245. Garden Cucumber.
4. *Cucumis Asininus dictus* C. B. 314. Moris. Hist. Raij Hist. 647. *sylv.* *sive Asininus* J. B. *sylv.* Dod. Pempt. 663. Wild Cucumber.
5. *Cucurbita lagenaria fl. albo* Moris. Hist. 2, 23. *folio moll.* C. B. 313. J. B. 2, 16, 216. Raij Hist. 638. Tournef. *Cucurbita longior.* Dod. Pempt. 669. Calabass or Gourd.
6. *Melo vulg.* C. B. 310. Tournef. Moris. Hist. 229. Raij Hist. 644. *Melones* J. B. 2, 16, 242. *Melo sive Melopepo vulgo Cucumis Galeni* Dod. Pempt. 663. Musk Melon.
7. *Pepo vulg.* Tournef. Raij Hist. 639. *maj. rotundus fl. luteo folio aspero.* Hort. Lugd. Bat. 481. *Cucurbita maj. rotunda aspera* C. B. 312. *Cucurbita foliis asperis sive Ziccha flore luteo* J. B. 2, 16, 218. The common Pompion, called by the vulgar the Melon.

The Tribe.

As the *Bacciferæ Scandentes* were brought into the last Decad with *Bryonia*, so the *Pomiferæ Scandentes* are here join'd with *Citrullus*, where I shall shew in what they agree, and wherein they differ. They have all weak infirm *Stalks* and *Branches*, *Claviculæ* or *Climbers*, by which they lay hold of any thing, and may climb and be supported. *Viticulated*, or *Vine-like Leaves*, or whole and incis'd, and of various Bigness. *Male* and *hermaphrodite monopetalous Bell-flowers*, according to Tournefort, with the same number of *Apices* in the one, and *Pistillum* or *Tube* in the other, a *succulent Fruit* containing the *Seeds*. They differ; The *Root* of the *Bacciferæ* is *perennial*, the *Pomiferæ* *annual*. *flore a fructu remoto in diversis Plantis* in the *Bacciferæ*; *In eadem planta* in the *Pomiferæ*. The *Leaves* and *Flower* much less in the *Bacciferæ*, with the *Berry* not *esca-*
lent.

lent. The Fruit of the *Pomiferæ* for the most part *esculent*. The *Leaves*, *Flower*, and Fruit much *larger*, and the *Seeds* of a proportional *Bigness*.

The Description.

1. *Citrullus* sive *Anguria* has its large *Leaves* deeply dissected almost into the *Midrib*. Its *Flower* of a Gold Colour, the *esculent Fruit* striated and *spherical*, rather resembling a *Pompion* than a *Melon*.

2. *Colocynth* has its *Leaves* dark green and dissected, many *Climbers*, but it does not *creep* far, nor ascend high; a small very bitter *Fruit*, of the Shape of an *Apple* or *Pear*, oblong turgid and pointed numerous *Seeds*.

3. *Garden Cucumber* has its *Leaves* undivided and *pentagonal*, small *Flower*: yellow-green oblong *esculent Fruit*, the numerous oblong *oval flat Seeds* in four or five longitudinal *Celluls*.

4. *Wild Cucumber* has *soft* whitish round *Leaves*, *Stalks* without *Climbers*, the small *Flowers* pale yellow. The *Fruit* small rough oblong or oval, compar'd to an *Acorn*, without the *Cup*, not *esculent*, bursting when ripe, and dispersing the *Seeds* with *Noise* and *Elasticity*: The *Root* is gross, and sometimes perennial.

5. *Gourds* have *Leaves* almost as large as those of *Burdock*, somewhat pointed. The *Flowers* large white and *tubulous*, expanded at the *Borders* into five pointed superficial *Segments*. The *Fruit* large, of various *Shapes* and *Figures*, frequently oblong like a *Pear*, or oblong and smaller at the *Beginning*, and enlarg'd, like a *Bottle* or *Pitcher*. The *Seeds* are oblong plain flat broad at the end, and terminating in two *Points* or *Horns*.

6. *Melons* have *Leaves* like *Cucumbers*, but *less* and rounder: yellow small *Flowers*: The *Fruit* large *oval* grey without, sometimes with long *Ridges*, and other times with various *protuberant Lines*. The *Flesh* yellow, *Taste* delicious, numerous *Seeds*, like those of *Cucumbers*.

7. *Pompion Leaves* are very large rough, sometimes deeply divided with hairy *Borders*. The *Flowers* are very large yellow *tubulous*, and expanded into five pointed *Segments*; the *Stamina* and *Apices* gross abounding with *Farina*; *Tube* pyramidal and button oblong, *Flesh* or *Pulp* of the *Fruit* white *esculent*; the *Seed* white broad plain and *Rhomboid*.

Virtues and Uses.

Though all of them being esteem'd *cold Fruits*, may seem to have a *Resemblance* in their *Virtues*; yet, since the *Salts* they contain are more

or less acrimonious. This makes a great Difference in their Operation in the animal Body. I shall therefore divide them into three Divisions.

1. *More*, or 2. *less esculent*, and 3. *purgative*. The *more esculent* are the *Garden Cucumbers* and *Melons*. The first is either eat *green*, being slic'd with *Salt*, *Pepper* and *Vinegar*, *Oil*, &c. or *pickled*. The *Melons* are eat when ripe, where they have a most delicious *Taste*, according to their several *Kinds*. The *less esculent* are the *Citruls*, *Gourd*, and *Pom-pion*. These, because of their *Largeness* do not eat so fine as the other, and are look'd upon to be too cold for the *Stomach* when eat raw, except the *Citruls*, which eat somewhat like a *Melon*, but more watery, and not so delicious. The other two are sometimes boil'd and eat with *Butter* and *Vinegar*, and *Pepper*, &c. like *Cabbage*; or they are bak'd with *Apples*, put also in the common *Shell*.

The not eatable or purgative are the wild *Cucumber* and *Colocynth*, otherwise called the *bitter Apple*. The first is famous for the *Fæcula*, or *Elaterium*, which is a violent *Emetick* and *Cartbartick*, and is sometimes prescribed in *hydropical* and *anasarcous Cases*; but Medicines of so violent an Operation are not always to be recommended; and these should be us'd with great Caution. The *pulv. Colocynth* also in a few Grains purges pretty smartly, being attended with Gripings, unless well corrected, and is not always safe, though too frequently given by old Women, Quacks and Mountebanks, to the poorer sort of People. It enters *Conf. Hamech. Hiera diacolocynthidos. Pil. Cochicæ min. ex duobus Rudijs*. It's made in Trochises by the Name of *Troch-Albandal*, which enters the *Pil. Cochicæ majores*. The Seeds are prescrib'd in *Decoctions* for *purgative*, *sharp*, and *irritating Clysters*. The *Sem. quatuor frigida majora* are the *Cucumeris hort. Cucurbitæ Peponum, Melonum*; to which may be added *Citrulli*. They are us'd in *Anodyne Emulsions* for the *Gravel*, and *Pleurisy*: A Paste of them with *sem. Hyoscyami, Papaveris*, &c. may be apply'd as a *Frontal* in violent *Head-aches*. They enter *Spec. diatrag. frig. diatriæ Santalon. Pulv. Haly Elect. diaspermaton*, &c.

XXII. *Cochlearia rotundifolia, Cochlearia marina, & Raphanus rusticanus.*

1. *Cochlearia folio subrotundo* C. B. 110. Tournef. Instit. 215. *Cochlearia* J. B. 2, 22, 942. Raij Hist. 822. Synops. Stirp. Brit. 173. Dod. Pempt. 594. *maj. Batavica subrotundo folio* Moris. Hist. 2, 308. Common Scurvygrafs.

K k k

2. *Cochlearia*

2. *Cochlearia folio sinuato* C. B. 110. Tournef. Instit. Raij Hist. Brittanica folio sinuato Moris. Brittanica Dod. Common Sea Scurvygrafs.

3. *Cochlearia folio cubitali* Tournef. *Raphanus Rusticanus* C. B. 96. Moris. Hist. 2, 237. Raij Hist. 818. Synopf. Stirp. Brit. 172. sylv. five armoracia multis J. B. 2, 21, 851. rusticanus crassa radice Lapathi folio Lob. Icon. 320. Horse-Radish.

The Tribe.

They are of the *Tetrapetalæ Siliculosæ* or *flore cruciformi cujus Pistillum abit in siliquam satis brevem* by Tournefort; Boerhaave follows Tournefort in joining *Raphanus rusticanus* with *Cochlearia*: Tho' it differs in the *facies externa*, yet since they agree in their Virtues as in the Notes, I think proper to bring it into this Place.

The Description.

1, 2. Since the first two only differ in the Figure of the *Leaf*, I shall describe them together: They are both low branched Plants; they first appear with shining smooth green *Leaves*, upon long *Pedicles* arising from the *Root*, round in the first, and hollow'd like a Spoon, from whence the Name. The *Leaves* of the other more narrow, thicker and more pointed, of a duller green, and somewhat sinuated round the Edges: Their *flowering Stem* arises about half a Foot high, much branched with less *Leaves* supporting small white *tetrapetalous* Flowers on the upper Part; to which succeed round *Capsulæ* or *Seed Vessels*, rather than *Siliculæ* or *small Pods* bicapsular; *septo intermedio*, according to Tournefort: They flower early in the Spring, soon shake the *Seed*; so that though they disappear in the Summer, yet they appear again pretty large in a wet Autumn, and the *Leaves* are chiefly useful in the Spring. The first, though called *Batava*, is pretty frequent on the *British* Sea-Coasts; it loves a Soil very near to the Sea; it grows frequent on the Sea-Banks on the top of the *Rocks* at *Dundee*, and several other Places in *Scotland*, and the North of *England*; 'tis much cultivated in *Gardens*. The second, though by some called *Brittanica*, yet is by far more rare: 'tis also to be had in several *Salt Marshes*.

3. *Horse-Radish* has a deep running simple carnos Root, emitting several large oblong blunt *Leaves*, smooth shining, of the bigness of *Dock Leaves*, dented about the Edges. The small strait not much branched flowering Stalk arises one or two Foot high, with smaller and more pointed *Leaves*, supporting *tetrapetalous* small white *Flowers* with large

large yellow *Apices*, to which succeed small round *Pods* with the former. I have often seen it growing wild in arable Grounds, where the Roots being plough'd up spring forth again, and the Plant is more dispersed; for it propagates so much by the running Root, that it seldom flowers, or brings the Seeds to Perfection.

Virtues and Uses.

1, 2. *Scurvygrass*, so called because of its *Prevalency* against that *Distemper*, is most effectual in all the *Symptoms* which attend it; the frequent internal Use of it very much curbs the acrimonious Salts, with which the Blood of *scorbutick* Persons is tainted. The juicy Herb chopp'd and put in a Bag, and rubb'd upon the Part, is an effectual Remedy for *scorbutick Erosions* of the *Gums*, which often endanger the Loss of Teeth. The bruised *Leaves*, and even the Juice, put plentifully in a Bathing Tub with cold Water, by frequent Bathing in it, the scorbutick Eruptions soon abate, and the Skin acquires its natural smoothness and softness, especially if the Patient be under an *antiscorbutick Regimen* during that time. *N. B.* It will not do so well in hot Bathing, its Particles being so volatile, that the active Principles soon evaporate: It consists of the most volatile and soonest extricated saline Particles of most *Vegetables*; its Preparations are *Aq. simpl.* which though the Water may well be impregnated with the more active and volatile Particles of the *Plant*, yet if *Spirits of Wine* be added, it will be more effectual where the first or more subtile Liquor may be called the *Spirit*, and what is afterwards distill'd may be call'd the *Aq. Cochleariæ*; some pretend to vend the plain and purging *Spirit*, by the Name of the *Golden Spirit of Scurvygrass*, as a great Secret, and that it infallibly cures the *Scurvy*: This is only done by putting a little *Saffron* in a Bag, which they suspend at the Orifice of the Receiver during the Distillation, by which they conciliate the golden Colour to the plain; and when they would make it purging, they make a *Tincture* of it with *Resina Jalap.* or *Scammony*. Some pretend to ferment the Juice with Yest or Barm before the Distillation; but I am of opinion this Method may do more hurt than good to the Virtues; for by this means the *Spiculæ* of the volatile Salts may be broken, and rendred not so active; and the Plant is of so loose a Texture of it self, that it soon conciliates its Virtues to the *Spirit of Wine*, without any such previous Preparation. The clarify'd Juice of *Cochlearia* and *Nasturtium aquat.* drank to three or four Ounces in a Morning during the Spring, is very good for that *Distemper*. The way to clarify it is to draw the Juice, and place it over a
very

very gentle *Fire*; as it warms a Scum will arise on the top, which may either be taken off by a Spoon, or it may be strain'd, but the first is preferable; for in the straining, the gross Particles are ready to mix again with the *Liquor*: They either draw the Juice, or mix the contus'd Herb with other *antiscorbutick Ingredients*, to be infus'd in *Wine* or *Ale*, the last of which they chuse to ferment, by putting them among hot Worts, and adding Yest or Barm when moderately cool: It yields a plentiful *essential Salt* by drawing the Juice, and placing it in a flat Vessel in a cool Cellar, and the Chrystals will adhere to the sides of the Vessel after some time: It enters *Aq. Raphani composita* in good quantity.

3. The *Raphanus rusticus* partakes of the very same Virtues, and equally powerful. The Root, which is most used, is of a very hot acrimonious Taste; the compound distill'd Water has the Name from it: 'Tis an Ingredient in all *antiscorbutick Waters*, Infusions in *Wine* or *Ale*, &c. 'Tis also given in good quantity among the Corn to *Horses*, as an effectual Remedy for the Cold in them, for which it is called *Horse-Radish*: 'Tis used for Sauces, being scrap'd down and eat with Roast Beef, &c. 'Tis well known; the Root is kept dry in the Shops for medicate *Infusions* against the *Scurvy*; but it looses much of the hot Taste in drying, though the remaining *farinaceous* sweet Taste is not an uneffectual Remedy for curbing of Acrimony in *Coughs* and *Consumptions*, and therefore may be an Ingredient in Powder in *peccoral Lobs* and *Electuaries*.

XXIII. *Consolida major* vel *Symphytum*, *Pulmonaria* & *Cynoglossum*.

1. *Consolida major* Offic. *Symphytum Consolida major* C. B. 259. Tournef. Instit. 139. *Symphytum magnum* J. B. 3, 33, 593. Raij Hist. 504. Moris. Hist. 3, 444. Great Comfrey.

2. *Symphytum maculosum Pulmonaria dictum* C. B. Moris. Hist. Tournef. 136. *Pulmonaria Italicorum ad Buglossum accedens* J. B. 3, 33, 595. *maculosa* Raij Hist. 489. Spotted Lungwort.

3. *Cynoglossum maj. vulg.* C. B. 257. Tournef. Instit. 139. Hist. des Plantes 74. Raij Hist. 489. Moris. Hist. 3, 448. J. B. 3, 33, 598. Hounds Tongue.

4. *Cynoglossum marinum Glaucophyllum procumbens floribus purpureo cæruleis* Pluk. Alm. Bot. 126. Miscell. Observ. let. 4. p. 53. an *Buglossum dulce ex Insulis Lancastriæ* Park 765. *Echium marinum* Phyt. Br. Sibbald Prodr. Scot. *Cynoglossum perenne marit. procumbens fol. glaucis brevioribus* Moris.

Morif. Hist. 3, 450. *Buglossum marit. incanum cæruleo flore* Hort. Ludg. Bat. 98 *marinum* Pet. Herb. Brit. T. xxix. 3. *Cerinthoides Argentea flore pulchro cæruleo* Boerh. Ind. 196. Sea Bugloss, falsely; rather Sea Hound's Tongue; by some called Sea Colewort.

The Tribe.

Great Comfrey being prescrib'd in the Shops by the Name of *Consolida major*. I thought fit to treat of it in this Place, and add the other three to it, because of the Affinity in their *Characters* and *Virtues*.

Morison joins the first two together; and it's with no less Reason that I have join'd the last two together also. Various are the Opinions concerning the Genus of the last nam'd. *Phytologia Brit.* seems to be the first who nam'd it *Echium marin.* Dr. Sibbald observing it near to the Queens-ferry in Scotland, continues to call it so. Dr. Pluknet is the first who design'd it *Cynoglossum*, as did Mr. Watts, according to Mr. Ray. Park. suppos'd it to be a *Buglossum*. Herman will have it a *Cerinthe*. Mr. Ray is of his Mind, though it's still continued by the Name of *Echium* in all his Writings. Mr. Bobart. (*Hist. Oxon.* 3.) very justly acknowledges it to be a *Cynoglossum*; and having receiv'd it from Mr. Lawson, gives a good Description of it. Boerhaave looking upon it as a mongrel Plant, terms it *Cerinthoides*. The Reason why I treat of it here is, on the account of the Experience I have of its *narcotick Quality*. They are all *Gymnotetraspermæ-Asperifoliæ*; for which see *Borrage Decad.* IV.

The Description.

1. Comfrey has a gross thick blackish simple Root, sending forth large Portions plentifully, endow'd with a viscid Juice and astringent Taste. The several larger rough pointed Leaves upon Pedicles arise first from the Root. The flowering Stem in the middle is gross, cornered, rough, branched, with less Leaves, without Pedicles, about two or three Foot high; the *monopetalous Flowers* sometimes pale red, sometimes yellowish, a little pendulous, have a gross Tube within the *quinquifid* pointed *Empalement*: are divided at the Border into five *superficial* round Segments, with five *Stamina* and their *Apices*. The four *Embryons* round the *Stylus* in the *Pericarpium* still tubulous, become so many rough Seeds, like a Viper's Head. It grows on Ditch Sides, and other shady Places.

2. Spotted Lungwort, so called by its white Spots dispers'd over the Leaf, which resembles a Lobe of the Lungs, has a carnos Root about the Grossness of ones Thumb, soon dispers'd into Fibres running deep

in the Ground. The rough light-green oblong and pointed *Leaves*, less than those of *Bugloss*, arise very numerous upon long Pedicles from the *Root*, the low *flowering Stem* in the middle, not above one Foot high; is small, rough, not much *branched*, with less alternate *Leaves*, but more pointed: The frequent *Flowers* on the upper Part are *tubulous*, within a *quinquifid* and *pointed tubulous* Empalement, somewhat *red* at the Beginning, afterwards more blue, and in some Species pure white, divided at the Border into five blunt superficial *Segments*, with proportional *Stamina* and *Apices*; the four Embryons round the *Stylus* become so many rough *Seeds*. It's a bushy Plant, cultivated in *Gardens*, *flowers* in the Spring. I have seen it wild in the Woods and shady Places in *Flanders*.

3. *Hound's Tongue* has a carnos black *Root*; the whole *Plant* resembles *Comfrey*; but its *Leaves* are more *blueish*, not seeming so rough save to the Touch; the *tubulous Flowers* more numerous, the Tube smaller, the deep red or purplish Borders not so large: It has five *Apices* at the beginning of the *Expansion*, alternately placed in a Circle, with five *Tubercles*; the four Embryons become so many large very rough flat *capsular Seeds*, situated obliquely round the gross Center, formerly the lower part of the *Stylus*, and lying upon the expanded *Pericarpium*. The numerous *Leaves* from the *Root* upon long *Footstalks* only appear the first Year. The *flowering Stem* is push'd forth the second Spring, after which the *Root* decays. It grows on the Sides of High-ways, rough and craggy Places, and sometimes varies into a white *Flower*, at which time the whole Habit of the Plant is of a lighter Green, as is usual in such Cases.

4. *Sea-Hound's Tongue* has a pretty gross black running *Root*, dispersing several small Fibres: the *Leaves* upon half Inch *Footstalks* are less roundish, and about one Inch broad at the Base, short and tapering to a Point of a cæsius or bluish Green, like *Coleworts* as it were, sprinkled with a whitish Dust, smooth to the Sight, but hard, stiff and rough to the Touch. The infirm *Stalks* spread along the *Sea Sand*, but very seldom branch'd or erect; are cloath'd with numerous less alternate more pointed and narrower *Leaves*, without *Footstalks* at the Base. The *Flowers*, as are rightly observ'd by Mr. *Bobart*, arise seldom from the Bosom of the *Leaves*, as most of that Tribe; but from the naked *Stalk*, with a *quinquifid Calyx*. The *Flowers* like the former, the Tube grosser and shorter, Borders not so broad, with five *Tubercles* and *Stamina* of a most agreeable dark or purplish Blue, soon falling off, and succeeded by four large flat *capsular Seeds*, plac'd upon the expanded *Pericarpium*, round the gross remaining Part of the Bottom of the *Stylus* in the Center.

ter. Its Root runs deep in the Sand, like *Eryngium Marit.* whose Colour much resembles; it grows very thick together, and spreads a good way, being chiefly propagated by the running Root. I knew it to be a *Cynoglossum* at first View, both by the *Flower* and *Fruit*, before I had consulted Books, or knew any Distribution of it by Authors. In its *Facies externa* and Figure of the Leaf it may somewhat resemble a *Cerintbe*; but though the *Tubulus* of the *Flower* be short and gross, yet it's expanded, and has the *Tubercles* of a *Cynoglossum Flower*, and *ovum non ovo similis*, than the *Fruit* of this is like to the other. *Pluknet* says the *Semina* are *lævia*: they seem indeed to be smooth at a distant View, but are still rough, and hard to the Touch. All genuine *Cynoglossa* have *capsular Seeds* as much as the *Malvæ*; a most distinguishing Character from the other *Asperifoliæ*, which may be more truly called *Gymnospermæ*.

It was observ'd at *Scrammerston Mill*, between the *Salt Pans* and *Berwick*: on the Sea Beach, about a Mile and a half from *Berwick*; also near *Whitehaven* in *Cumberland*, and against *Bigger* in the *Isle of Walney* in *Lancashire*, plentifully, by *Mr. Lawson*. Near *Trefarthen* in *Anglesea*, and in abundance by the River *Uyfnï*, in the Way from *Dinardinlle* to *Clynog* in *Carnarvonshire*, by *Mr. Lhwyd*. In several Places along the South Side of the *Firth of Forth*, by *Sir R. Sibbald*, and about one Mile from the *Ferry*, over against *Dundee*, as you go to *Naughton* in *Fife* by myself, where it runs plentifully among the dry, pebbly, or channelly Sand, but not within Flood Mark.

Virtues and Uses.

1. The *Roots* of *Comfrey* are most in Use. They are potent *Astringents*, and are prescrib'd in *Decoctions* and *Ptisans*, in *Diarrheas*, *Dysenteries*, *Menstruorum fluxus nimius*, and *spitting of Blood*; but in small Quantities otherwise they make the *Liquor* ropy and viscid. The *Powder* may be given inwardly in the aforesaid Cases; also in a *dry Cough* and *Consumption*; for it's an excellent Obtunder of *Acrimony*. It enters the *Syr. de Symphyto & de Pilosella*. It's esteem'd an excellent *Vulnerary*, and is prescrib'd in *Fomentations* and *Lotions* externally, for stopping of *Blood* in incis'd *Wounds*, for curbing the *Efflux* of *serious acrimonious Ichorous* and *Sanies Matter*; also for keeping down *proud Flesh*. The *Powder* may also be an Ingredient in *Astringent* and *Strengthening Plaisters*. A *Fomentation* apply'd to the *Back* is a speedy and effectual Remedy to prevent *Abortion* from excessive *Floodings*.

2. *Pulmonaria*, or *Lungwort*, being also an *Astringent*, may be an Ingredient in the aforesaid Cases. It's particularly recommended for
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pectoral Decoctions, Syrups and Ptisans, for Diseases of the Breast, perhaps by the Signature, because of its Resemblance to the *Lungs*. It's also a good *Vulnerary*, and fit for *Lotions* and *Fomentations*, to curb *Acrimony* and *proud Flesh* in *Wounds* and *Ulcers*. *Lungwort* being infus'd among small *Beer*, and drank Morning and Evening, is recommended by the *German Ephemerides*, for an effectual Remedy for the *Jaundice*, Raij Synopf. 3, 228.

3. The two *Cynoglossa* have both the same *soporifick, narcotick*, and even *poisonous* Qualities, as appears by these two Relations. *Morif. Hist.* 3. informs us, that a *Woman* near *Oxford*, about twenty-six Years before writing of that *History*, being desirous to have a Dish of green *Broth* made of tender *Comfrey Leaves*, took the *Leaves* of *Hound's-tongue* instead of them, boil'd with *Flesh*. Her *Husband, Children*, and herself eat plentifully of it; immediately after Dinner all of them were oppress'd with Sickness; they fell a vomiting violently, after which they were so stupify'd, that they fell asleep, and slept near forty Hours, before they could be awak'd; and one of them never awoke, but died. I have been inform'd of the following Narrative, exactly parallel. In the Year 1694, there was a great Famine in *Scotland*, so that the poor People gathered what kind of green Herbs they could get, and made a green Broth, sprinkling some Oatmeal among them, as they often do with the common *Coleworts*. A Family living at a *Farm House*, (which they call *Pease-Hill*, about half a Mile of this Place, where I observ'd the *Cynoglossum marinum procumbens*) observing this Plant grow plentifully there, and having a Resemblance to *Coleworts* by the Colour, gathered, boil'd, and eat heartily of it. There were five or six People in the Family, they all sickened, vomited, were stupified, fell asleep, and they that surviv'd slept two Days, but two of them died. I communicated this History some Years ago to my late worthy Correspondent Mr. Pettiver. See my *Miscel. Observ. Letter* 4. p. 53. This is a most convincing Argument of the Harmony betwixt the *Characters* and *Virtues* of *Plants*, as the Notes shew both to be *Cynoglossa*, or of the same *Genus*. So these two Narratives are a full Confirmation of it; and what's very remarkable, I had got this historical Account of the one, several Years before I had read or taken Notice of that told in *Hist. Oxon.* of the other.

Hound's-tongue is reputed a potent Astringent, also recommended for stopping of *Hemorrhages, Fluxes, Gonorrhæas, spitting of Blood*. It's also esteem'd good in *dry Coughs*; but its chief Use in Physick is as an *Anodyne* and *Narcotick*. Dr. Hulse, according to Mr. Ray, *Synop. Stirp.* commends its Use in *scrophulous Tumors*, either a *Decoction* of the *Root* being

being given inwardly, or a Cataplasm of it being apply'd externally to the Tumour. It seems, by its *Anodyne* Effect, to be a great Curber of *Acrimony*, as all *Narcoticks* are; but I am not fond of recommending it internally, because too potent *Astringents* and *Anodynes* inwardly given are not always safe. Its Dose in the *Pillulæ de Cynoglossō* is so small, and 'tis an Ingredient in the Composition in so small a quantity, that there is no Danger in the Use of it: Most Medicines, when given in an immoderate Dose, prove rather *Venena* than *Medicamenta*. In a word, the *Asperifoliæ* come up to the propos'd Harmony betwixt the *Characters* and *Virtues* of *Plants*, as much as any: They are more or less Coolers; consisting of Particles that more or less restrain, and put a stop to the too violent *Motion* or *Circulation* of the *Blood*; more or less intense *Astringents*, by contracting or shutting up of the *Pores* and *Orifices* of the *Capillaries*, more or less stupifying of Pain, and curbing of *Acrimony*; but none of them consist of such tenuious and subtile Particles, as to become *Discutients*; *Carminatives* can accelerate the *Motion* of the *Blood*, or reserate *Obstructions*; that's the Work of the *Galeatæ Verticillatæ*, the *Tetrapetalæ Siliculosæ* & *Siliculosæ Umbelliferæ*, &c.

Consolida media vide *Bugula*.

Consolida minor vide *Bellis minor*.

XXIV. *Consolida Regalis* sive *Delphinium*.

Consolida Regalis hort. fl. majore & simplici C. B. 142. *Delphinium* sive *Consolida Regalis erectior purpureo sive violaceo flore maj.* J. B. 3, 26, 211. *Delphinium elatius purpureo-violaceo distinctum* Tournef. Instit. 426. Raij Hist. 708. Moris. Hist. 3, 465. Lark's Spur.

The *Tribe*.

This, by all who class by the Fruit, is plac'd among the *Multifiliquæ Corniculatæ*; and among the *Polypetalæ Anomalæ* by Tournefort, who classes by the Flower.

The *Description*.

From an annual fibrous Root, a round strait branched Stalk arises two or three Foot high, adorn'd with several dark green roundish Leaves, deep divided into many fine Segments, like those of *Abrotanum Mas*. The Flowers on long Spikes on the top of the Stalk and Branches are pentapetalous, anomalous, the lower of which are roundish; the fifth and upper consist of five Parts, viz. an upright bifid Galea or Helmet, on the back of which lies as it were another Petalon, two Wings, and a cavous or hollow Calcar, or surrounded as it were with a Scabbard or Sbeath, bending downwards behind. The Stamina are so numerous,

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that being united they form as it were a *filken Membrane* in the bottom of the *Flower*. The *Embryo fructus* consists of several small *Rudiments* of *Capsules* or *Seed-Vessels*, strait and parallel to each other, each endow'd with a proper *Stylus*, with a white *Button*, which become four or five *Siliquæ* or *Pods*, opening longitudinally, and pouring out several black, cornered *Seeds*. It is cultivated in *Gardens*, where 'tis a great *Ornament*, strolling with a good *Variety* of *Colours*, as *white*, *blue*, *incarnate*, *strip'd*, *single*, *double*, and very full (*flore duplici & pleno*). This is a pregnant Instance, not only of the *Sexes* of *Plants*, but of the *Prevalency* of *Effluvia*: For undoubtedly the original *Colour* was *blew*; some *Disposition* of the *Particles* entering the *Pores* of the *Root*, have at first caused these *Variations* of *Colours*. The *Effluvia* continue this *strolling*, and the *Culture* causes the *Alteration* from *single* to *double*, &c. Of this see more at *Aquilegia* and *Cyanus*.

Virtues and Uses.

'Tis said to be a potent *Vulnerary*, but seldom or never used: Its Use is more for the *Ornament* than for a *Medicine* in *Gardens*.

Convolvulus vide *Brassica Marina*.

XXV. *Conyza*.

1. *Conyza maj. Theophrasti major Dioscoridis* C. B. 284. *maj. Monspel. odorata* J. B. 2, 24, 105. *Raij Hist.* 261. *Virga aurea maj. fl. glutinosa graveolente* Tournef. *Instit.* 482. *major vera* Moris. *Hist.* 3, 114. Great Fleabane.

2. *Conyza minor flore globoso* C. B. 266. *minor mas* Raij *Hist.* *Aster parvo flore globoso* Tournef. *Instit.* 483. *mediæ minor species flore vix radiato* J. B. 2, 1050. *Synops. Stirp. Brit.* 3, 174. Small Fleabane.

3. *Conyza media Asteris flore luteo vel tertia Dioscoridis* C. B. Raij *Hist.* *media humidis locis proveniens* J. B. *Aster pratens. Autumnalis Conyzæ facie* Tournef. *media repens Asteris fl. luteo* Moris. *Hist.* Middle Fleabane.

The Tribe.

The Difference amongst *Authors* in determining the *Officinal Species*, has induc'd me to propose these three; for though none of them be in modern Use in the *Shops*, yet since *Dioscorides* among the *Ancients* proposes three, according to *Weckerus Antidot. Spec.* 75. MAJOR, MINOR & MEDIA. MAJOR. *frutice altior & foliis latioribus quam MINOR odore gravi*; MINOR *odore præstantior*, MEDIA *caule crassiore & molliore minime pinguis multo tamen gravioris odoris & injucundioris sed inefficacior*. I say, since the *Ancients* name three, and since some of the *Moderns* propose *Baccharis*, the *New London Dispensatory* determines *Conyza flore globoso* C. B. and Mr. Dale condescends upon *Conyza media*, I resolve to treat

treat of all the three. The *Baccharis*, J. B. maj. *Dioscoridis* C. B. is a *virga Aurea* with *Tournefort*; *minor* and *media asteris flore* are by him plac'd among the *Asters*.

The Description.

1. *Baccharis* arises three or four Foot high, with a strait woody rough branched *Stalk*, glutinous to the Touch; the dark green alternate *Leaves* two or three Inches long, and pointed, lightly serrated hairy and clammy, pale green, as they ascend, the yellow radiated *Flowers*, about the Bigness of those of *Bellis minor*, are disposed into *Spikes* on the top of the *Stalk* and *Branches*; to which succeed small pappous *Seeds*. 'Tis a perennial Plant, with a woody fibrous *Root*.

2. *Small Fleabane*. From an hard *Root* with large white *Fibres*, the round purplish somewhat hairy *Stalk* arises about half a Foot high. The alternate *Leaves* two or three Inches long, one or two broad; pointed, and a little crisp'd round the Edges, surround the *Stalk*, without *Footstalks*: The little *semiflosculous* yellow *Flowers*, from a globulous *squam-mous Empalement*, are plac'd on the top of the *Stalk* and *Branches*; to which succeed several pappous *Seeds*. It grows in moist Places, where the Water has stagnated in the Winter.

3. *Middle Fleabane* arises about one Foot high, with a gross round whitish *Stalk*; the whitish hairy alternate *Leaves* surround the *Stalk* with an *Ala* or *Wing* on each side, are oblong narrow pointed rough, larger than *Sage Leaves*: The yellow radiated large *Flowers*, on the top of the *Stalk* and *Branches*, have their *Corona*, consisting of two or three Rows of very small *Semifloscules*: The *Discus* is large; its Heads are so black, after the Flourishes of the *Discus* are decay'd, the *Pappo* or Down is so short and compact, that at first view it would seem to be one of the *Corymbiferae radiatae*, rather than *Seminibus Pappo instructis*; it grows very frequent at the Sides of Ditches and other moist Places.

Virtues and Uses.

The Virtues ascrib'd to this Plant by the Ancients, are, according to the said *Weckerus*, these; *Suffitu substratuque frutex totus* (I suppose he means of the major) *Serpentes fugat culices abigit & pulices necat. Folia convenienter illinuntur serpentum plagis & tuberculis ac vulneribus. Flores & folia cum vino ad Menses partusque ejiciendos bibuntur, item contra Urinae Stillicidia arcuatum morbum & tormina Comitiales pota ex aceto adjuvant. Decoctum in decessionibus medetur vulvæ malis impositus, succus abortum facit. Herba ex oleo efficaciter horroribus oblinitur capitis dolores tenuis illinita sanat. Dioscoridis.* The afore-cited Author, *Antidot. lib. ii. p. 569.* in *Ung. Aregon.* which seems to be a good Discutient, prescribes *Conyzæ maj. min. ana. ʒijv.* *Conyza* was in the same Ointment in the Old Dispensatory, but it is omitted.

mitted in the *New*: so that the officinal Use of that Plant is exploded. *Vid. Math. in Dioscorid. edit. Baubin. lib. 3. p. 629.*

XXVI. *Coriandrum*.

Coriandrum maj. C. B. 158. Moris. Umbell. 48. Hist. 3, 269. Tournef. Instit. 316. *Coriandrum Raji* Hist. 479. J. B. 2, 27. 89. Coriander.

The Tribe.

This is a peculiar *umbelliferous* Plant, with *globular* or *subrotund* Seeds.

The Description.

'Tis an annual *Plant*, with a strait smooth round striated, not much branched, *Stalk*; the lower *Leaves* are light-green roundish and crenated; the upper, upon the *Stalks*, are longer, and still the deeper divided the higher they grow upon the *Stalk*. The *white Umbells* of *Flowers*, with dissimilar *Petals*, are succeeded by two *globular* or *spherical* lightly *striated* *Seeds*, of an heavy high *Smell* when green, more agreeable when dry;

'Tis sown in *Gardens*, also in the *Fields* near *Tilbury*, and other *Places* in *Essex*.

Virtues and *Uses*.

'Tis one of the most potent *Carminatives* in the *Shops*, and prescrib'd in most *anticholical Medicines*; such as *stomachick Powders*, *Elektuaries*, *Ingredients* for *Infusions* in *Wine* and *Ale*, and *Tinctures* in *Brandy*. They *candy* *Seeds* with *Sugar* for *discussing*, or what they call *raising* of *Wind*.

XXVII. *Cornus*.

Cornus mas. C. B. 447. *sativa sive domestica* J. B. 12, 202. Tournef. Instit. 642. The *Cornelian Cherry Tree*.

The Tribe.

This is one of *Tournefort's Arbores flore Rosaceo*; of the *Arbores Dicotyledones* by *Boerhaave*; the *Bacciferae Umbilicatae* by *Mr. Ray*; which though 'tis *monopyrene*, yet 'tis *dispermos*, with only one *nucleus*, but inclosing two *Seeds*.

The Description.

This is near to the Bigness of a *Cherry Tree*, with broader smoother, not serrated *Leaves*, with *Veins* differently *divaricated*. The small *Flowers* have first a common stiff expanded *tetraphyllous Calyx*; within that is another, *pentaphyllous*, with more pointed *Segments*; these involve several small *tetrapetalous* yellow *Flowers*, each with four *Stamina* thick-set in *Clusters*, with a long *Stylus*; to which succeeds an oblong *Fruit*, like a little *Olive*, red when ripe, with a sweetish *Pulp*, including
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an hard *Stone*, containing two *Seeds*: The *Buds* of the aggregated *Flowers* appear early in the Spring, before the *Leaves* break forth. The male *Tree*, which arises pretty high, is planted in Gardens. The Female, called *Virga Sanguinea*, is only a *Skrub*, its Fruit not so large, and is planted in *Hedges*.

Virtues and Uses.

The subastringent Fruit is palatable, and eat with other Fruits sold in the Markets, in the Season: It is said to be good in *Diarrhæa's*, *Dysenteries*, &c. The *Rob de Cornis* is sometimes used in the Shops, but is not much in use.

Coronopus vide *Plantago*.

XXVIII. *Corylus*.

1. *Corylus offic.* *Corylus sativa* J. B. 1, 3, 266. *sativa vulg.* C. B. 417. Raij Hist. 1379. Tournef. 581. Boerh. Ind. 176. Filbert Nut.

2. *Corylus sylv.* C. B. 418. Læselij Flora Prussica 55. The Hazel Nut.
The *Tribe*.

This is another kind of *juliferous Trees*, whose *Flower* is separated from the *Fruit* in the same *Plant*. No sooner are the *Nuts* ripe, than the *Juli* or *Katkins* begin to appear, some single, some two or three together, upon small *Pedicles* hanging down from the *Joints* or *Bosom* of the *Leaves*; short and small at first, somewhat resembling an *Earthworm*, but afterwards stretch'd forth to an Inch and an half in length, consisting of a *Midrib*; to which adhere, at certain regular *Intervals*, three small scaly *Leaves*, one larger above, the other two less, convex above and concave below; beneath which are lodg'd six *Chives* with their *Summits*, which burst and shed their *Dust* in the Months of *January* and *February*. In the beginning of *March*, the *Embryons* of the *Fruit* begin to appear, at distant Places; consisting of a scaly *Empalement*, composed of several small *Leaves*, surrounding many small round bended sharp scarlet *Threads*, with the *Embryon* in the middle, which afterwards becomes a *Stone-Fruit* or *Nut*, consisting of an hard *Shell*, enclosing a *Kernel*, and contained in a thin tough spread forth *Empalement* or *Husk*; these *Embryons* are sometimes three four five or more in a *Cluster*, arising from one *Pedicle*; but they seldom amount to Læsius's Number; whereof hereafter.

The *Description*.

These two *Trees* differ only in the *Soil* and *Culture*: The *Filbert* arises to a strait *Tree* of a middle *Stature*, with small tough flexible

or plyable *Branches* when young; but rising up to a pretty big *Trunk*, with a rough *Bark* when of age; the *Leaves* alternate from the *Joints*, upon short *Pedicles*, are large, about two or three Inches diameter, round, somewhat pointed and slightly nitch'd, rough, dark green above, with six or seven Pair of protuberant *Veins*. The *Katkins* and *Fruit* appear in their Season upon short *small Pedicles* from the *Joints*. The Hazel Nut only differs from the other, by its being rather a *Shrub* than a *Tree*, seldom arising into one single *Trunk*, but soon dispers'd from the Root into several long, infirm, flexile *Branches*, with *Leaves* and *Fruit* like the former, but much less in Proportion.

Læselius observes, that the Hazle is so fertile in *Prussia*, that he has seen 17, 21, or 22 Nuts hanging in a Cluster from the same *Pedicle*, with four different kinds of Husks. 1. With the Nut wholly hid. 2. With an open Husk. 3. When the Husk is half open. And 4. with a short Husk.

The Husk of the *Filbert*, for the most part, wholly covers the Nut, thick at the Base, becoming afterwards thin, tapering and fimbriated at the Top,. *Authors* reckon'd four Kinds of those Nuts. 1. The common *Filbert*, with a white *Fruit*, less. 2. A large, round, white *Kernel*. 3. With an oblong *Kernel* and a red *Pellicle*, or inner Skin. 4. With an oblong red *Kernel* cover'd with a white Skin. I have also observ'd it with a large oblong *Kernel* cover'd with a strip'd, red and white Skin.

Læselius (who wrote seventy Years ago, when the *Sexes* of Plants were not known) says they err, who take the *Katkins* or *Juli* to be the *Flower*; for he looks upon the *Embryons* with the Scarlet *Threads* to be it. But withal he adds, *Notandum CORYLUS quo magis JULIS abundat eo copiosiores alit FLORES* (the *Female Embryons* so called by him) *destituta iisdem paucissima ostendit*. A fair Insinuation, that the *Impregnation* of the *Fruit* must depend upon the Dust from the *Apices*. I must here take Notice of what *Agricolà* justly observes that the Base of the *Kernel* is always towards the *Pedicle*, and the sharp Extremity, where the Point of the *Radicle*, the *Punctum Vitæ* is lodg'd, towards the *Flower* or *Pistillum*. But this is far from confirming Mr. Moreland and Mr. Bradley's Opinion, "That the *Farina* is a Congeries of seminal Plants, one of " which must enter the *Embryon* of the *Seed*, before it can become pro- " lifick; and that there's a manifest Perforation of the Eye of each Seed " which is towards the *Pistillum*, into which the seminal Plant does en- " ter, that it demonstrates quite the contrary". For tho' the Point of the *Radicle* be towards the *Pistillum* or *Stylus* in *Stone-Fruits*, yet it has no Communication with it: for in these *Filbert* and *Hazel-nuts* it plainly receives

receives the Nourishment by a strong, loose *Navel-string*; which arising from the Center of the *Shell* at the *Base*, runs to the sharp End, and there conveys Nourishment to the *Kernel*, by means of the *Point* of the *Radicle*: For its obvious to any who shall examine, that the Center of the *Eye*, which in Nuts of *Hazel* and the *Filbert* are very large, is protuberant, from whence this *Navel-string* arises, and runs strait along on one of the Sides of the *Kernel* to the *Point* of the *Radicle*, where 'tis plainly inserted. Nor does it happen otherwise to all other Kinds of *Stone-fruits*; for though Mr. *Bradley* in his *Agricola*, impos'd so far upon the World and me, as to make believe there is lodg'd a small Orifice on the thick Side of the Shell of an *Almond*, towards the Top, which will admit of an Hog's Bristle reaching to the *Point* of the *Radicle*: This is so far from being Fact, that these *Holes*, of which I have observ'd four, five, or six chiefly in that Part of the *Shell* (which may be called its *Eye*) are for Admission of large *Sap Vessels*, some of which are dispers'd in the Substance of the *Shell*, running along either the *Laminæ* or *Diploæ*, betwixt, as we see *Blood-Vessels* dispers'd all over the *Human Scull*; and others of these *Vessels* pass strait to the thick Membrane, which covers the Shell. And I have, with the greatest Exactness, often search'd after this pretended *Hole*, but could never find it. What I have observ'd is that in *Apricot*, *Peach*, *Plumb-stones*: the *Eye* is depress'd, the Stone has one thick Side, frequently endow'd with two longitudinal *Sulci* or *Furrows*, making a Protuberance in the middle. Every Shell is divided into two Halves joined together by the *Suture*, called in *Osteology* *Symphisis*, like the *Commissura*, or joining of the two Bones of the *Nose*. The *Navel-string* arising from the Center of the *Eye*, runs half way along the *Furrow* of this *Suture* within; and then passing to the *Kernel*, runs along the half of the upper Part of the *Kernel*, being at last inserted in the *Point* of the *Radicle*. And it's very remarkable, that when a *Stone-fruit* is fully ripe, the *Kernel* is full; but when unripe, that Part of the Pellicle or outer Skin, towards the *Base*, is half empty. When the *Vegetation* begins, the *Kernel*, by the *Fetus* from the *Earth* (like the Heat of a *Hen* at the hatching of an *Egg*) begins to swell; the Halves of the Shell, separate at these *Sutures*; and no sooner do the nutritive Particles enter the *Point* of the *Radicle*, than the *Seed Leaves* begin to be expanded and spread forth. All which time the *Point* of the *Radicle* receives nothing from the Top, but from the *Base* of the *Shell* where the Opening begins, the nutritive Particles enter by the *Navel-string*, and continue to do so, until the *Point* of the *Radicle*, being fully dilated, there's no more need for the *Navel-string*.

Thus

Thus it is that both *Shell* and *Kernel* are nourished ; and thus, as the *Navel-string* was the last by which is convey'd the Nourishment from the *Pedicle* ; it's the first which receives it from the *Earth*. Neither does this *Kernel* any otherwise communicate with the *Point* of the *Shell* which is towards the *Pistillum*. And though this *Navel-string* is not so obvious in *Almonds*, *Apricots*, *Peaches*, *Plumbs*, &c. as in the *Filbert* and *Hazel Nuts* ; yet those who shall please to examine any of these *Stones*, especially when fresh, will find this outer *Coat* always strictly adherent to the middle of this *Shell*, at the thick *Side*, where the *Navel-string* passes from it to the *Kernel*. Therefore since 'tis acknowledg'd by all, that there's an *Uniformity* in all *natural Productions*, so there is the greatest reason to believe all *Kernels* of *Stone-fruits* are to be nourished after the same manner. I have discours'd more fully on this Subject in another *Treatise*, which I hope will shortly be publish'd.

Virtues and Uses.

Neither the *Wood*, *Bark*, nor *Fruit* of the *Filbert* and *Hazle* are of much *Use* in *Physick*. The *Kernels* seem to partake of the same *Virtues* with *Walnuts* and *Almonds*, but they are not so oily. I'm sensible, by *Experience*, that the *Kernels* of *Filbert-nuts* eaten in any *Quantity*, when fresh, are laxative, and open the *Body* gently. And I doubt not but they may be good *Pectorals*, being beat into a *Pulp*, and made up into a *Linētus*, as they do with *blanch'd Almonds*. When dry they are more *Astringent* ; and because of the outer *Husk*, which is very *drying*, and ready to stir up a tickling *Cough*, they, perhaps, may not be so very good for *Asthmatick Persons*. They are of a *fari-naceous* Substance ; and I have known those who, having abundance of *Hazel-nuts*, have husk'd them, and ground the *Kernels* in a *Mill*, of which they have made *Meal*, and bak'd it into *Bread*, which has been look'd upon as very nourishing, as indeed the *Seeds* of *Kernels* of most *Stone-fruits* are.

Læselius observes, that in *Prussia* (where he says the *Hazel-nuts* are in such *Plenty*) they beat out a *Powder* from the *Katkins*, which affords a delicate yellow *Colour* to the *Painters* ; And that the *Barbers* and *Surgeons* make use of it, by applying it to *Wounds* as a good *Consolidater* being *drying* and *astringent*. He also observes, that the old *Wood* is brittle, the young *Twigs* are very flexile, tough, and bending ; so that they make very good *Hoops*, they make good *Panniers* of them for *Fish Cadgers*, and other coarse *Baskets* ; for they will bend, and can be twist'd any way.

I canont

I cannot pass by what is said to be usual in the Islands and remote Parts of this Isle of *Britain*; where Families, who keep *Ale*, being at a Distance from any Neighbours, they take a Hazel Rod and twist it, so as there be wide *Chinks* and *Gaps* in it. They shake and toss this Rod a long time among *Yeast*, *Barm*, or working *Ale*. They afterwards lay it up, and carefully dry it; and when they brew they toss this Rod among the *Worts*, until the dried *Ferment* in the Rents and Gaps of the Rod begin to soften and mix with the *Wort*, by which they set it in working as well as if the best *Barm* were put to it; and the Rod having imbib'd fresh *Ferment*, they dry it again, and keep it for Use. And thus a Family may be serv'd for whole Ages; for the oftner it's us'd, the *Ferment* will still be the fresher. And I doubt not, being thus dried, it may be stronger than *Barm*, which being brought from weaker *Ale* is put to stronger *Worts*. The twisted Rods from other Trees may do the same; but as most of them have some peculiar *Taste* or *Virtue*, so Hazel is look'd upon as best, since what it is mix'd with will not affect the *Taste*.

It's of the *Hazel* or *Oak* that they make the *Virgula divinatoria*, *Baquette divinatoire*, or *divining Rod* for finding out of Metals, and, as some pretend, pursuing after Blood upon the committing of Murder, of which Authors may be consulted.

The last thing I consider about these Trees is their Culture. *Læselius* puts us in mind of an old adage *Corylus eo fructuosior quo pejus tractatur*. This I have often known, when the middle Stem, being usually the greatest, has been cut down for *Plow-goats*, or *Fishing-rods*. Next Year it push'd forth more Twigs, which being allow'd to spread forth at their Liberty, have been very fertile. And we always see that the Hazel confin'd to Hedges, however little Care be taken in dressing and pruning of them, are neither so fertile, nor produce so good Nuts as those in the Woods, which grow at full Liberty. So much ought the Air, Manner of growing, and Soil of every Tree, to be considered in its Culture. For as the Hazel is an *Indigenous Tree*, and, as is observ'd, never delights in growing up into one strait Stem, which may afterwards become the Trunk or Body of the Tree, I'm of Opinion, the suffering of it to grow naturally in a Wood on a Hill Side, and Banks of a River, with a good Aspect, it will there grow far better, be much more fruitful, and produce larger Nuts than otherwise.

The Filbert on the other hand not being indigenous, and naturally growing up in one principal Trunk or Stem, is capable of being confin'd to be *engrafted*, *prun'd*, &c. and dress'd up so as to make an Hedge not only pleasant but profitable, by the Abundance of its Fruit:

but as to the planting out its Culture and Management, I leave that to the expert Gardeners, who are now at work in informing the World with their curious Observations. I shall only add, that if well car'd for, it may make as good an Hedge as *Elm* or *Horn-beam*, since its tender Twigs may as easily be dress'd, twisted, and put into any Figure the expert Gardener thinks proper: And it will have the Advantage of producing Plenty of *esculent* Nuts, which the other have not.

Cotula foetida vide *Chamæmelum*.

XXIX. *Cotyledon* five *Umbilicus Veneris*, *Crassula* five *Telephium* & *Sedum*.

1. *Cotyledon vera tuberosa* Radice J. B. 3, 35, 633. Raij Hist. 1878. maj. C. B. 285. Tournef. 9. *Sedum murale luteum fol. Umbilicato* Morif. Hist. 3, 471. *Cotyledon Umbilicus Veneris* Clus. Hist. lxiii. Venus Navelwort.

2. *Crassula* maj. Dod. Pempt. 130. *Anacampteros vulgo Faba Crassa* J. B. 3, 32, 681. Tournef. Instit. 260. *Telephium vulg.* C. B. 287. Morif. Hist. 3, 467. Raij Hist. 689. Hist. des Plantes 387. Common Orpine.

3. *Sedum* maj. vulg. C. B. 283. Tournef. Instit. 262. Hist. des Plantes 233, J. B. 3, 35, 687. *Sempervivum* maj. alterum s. *herba Jovis* Dod. Pempt. 127. Morif. Hist. 3, 474. Common Houseleek.

4. *Sedum minus teretifolium album* C. B. 283. Tournef. Instit. Hist. des Plantes 146. *minus fol. longiusculo fl. albo* J. B. 3, 35, 690. Morif. Hist. 3, 472. *Vermicularis Crassula minor offic.* & *Illecebra* maj. Lob. Icon. 377. Small Houseleek.

5. *Sedum parvum acre flore luteo* J. B. 3, 35, 694. *minus vermiculatum acre* C. B. 283. Morif. Hist. 471. Stone-crop or Wall-Pepper.

The Tribe.

I conclude this Decad with what most Authors term *Multisiliquæ corniculatæ* and *Polyspermæ seminibus pulverulentis* by Morison; to each of whose Flowers succeed five, for the most part, oblong Seed Vessels, or univalve *Siliquæ* or *Siliculæ*, opening length-wise, and pouring out five small Seeds. Tournefort, by his Method of classing by the Flower, separates far from each other the Plants which agree by the Fruit and Virtues; for he places *Umbilicus Veneris* among the *monopetalous Bell-flowers*, and the *Crassula* and *Seda* among the *Polypetalæ Rosaceæ*, by which we may see the Advantages of classing by the Fruit and Seed, rather than by the Fruit alone, as Rivini; or Flower and Fruit, as Tournefort has done.

The Description.

1. *Venus Navelwort* has a *tuberous Root*, roundish white and juicy, sending

ing forth a few *Fibres* from the *sessile Part*. After the *Flower* and *Fruit* is gone, and the *Seed* is ripe, there arise several small round *Pedicles*, one two or more from each *Knob*, strait, about two or three Inches high, each supporting round smooth light shining green *Leaves*, superficially nitch'd about one Inch Diameter, lying horizontally depress'd, and hollowish, opposite to the *Insertion* of the *Stalk* in the Center, after the manner of *Mushrooms*. In the Month of *April* or *May* arise strait round naked *Stalks*, about three or four Inches high, loaded with *Flowers* thick-set in a *Spike* oblong *monopetalous* yellowish green, superficially divided at the Border into five pointed *Segments*, with five *Stamina*, and a *quinquifid Calyx*; to which succeed four oblong *Capsules* containing small *Seeds*. N. B. The *Flower* does not fall off, but, like *Helleborus niger*, continues until the *Capsules* are formed, which makes some suppose it crumbles up and forms the *Capsules*; it grows on the *Church Walls* of *Tattershall* in *Lincolnshire*. The larger *Leaves* fade, when the flowering *Stem* begin to be push'd forth: so that the *Plant* is invisible in the Month of *July* and beginning of *August*; in *September* the *Leaves* are in the full bigness, and continue green all the *Winter*. Mr. *Martyn* informs me, that he has observ'd it nowhere about *London*, except in a *Gravel-pit* near *Highberry Barn*; but that he has seen it in great Plenty in some of the *Southern Counties* of *Wales*, where every *Wall* and *Bank* is full of it.

2. *Orpine*: From a gross *Root*, endow'd with several *Tubercles*, there arise several strait round solid *Stalks*, about one Foot high, adorn'd with several oblong or oval smooth juicy green *Leaves*, alternately and inordinately plac'd. The *Tuff* or *Umbells* of *Flowers* on the top of the *Stalk* and *Branches* are *pentapetalous*, with five pointed purplish *Petals*, surrounded by a *pentaphyllous Calyx* with five *Stamina*, to which succeed so many *Capsules* or *Seed Vessels*, gathered together into an *Head* full of very small *Seeds*. N. B. The *Petals* observe no definite Number, but the *Leaves* of the *Calyx*, *Petals* of the *Flower*, *Stamina* and *Seed Vessels*, all correspond.

3. From a gross *Root* in the greater *Houseleek*, there arise several thick blueish green succulent broad roundish pointed *Leaves*, thick, orbicularly disposed, forming several *Circles* from the Center to the *Circumference*, and several of these *Orbiculi* larger and less, are usually placed at the *Sides* of each other; when the flowering *Stem* is push'd forth, which is but seldom, it arises with a gross strait round *Stalk*, about one Foot high, thick beset with alternate and inordinate small narrow pointed *Leaves*, inclining to a red, supporting *Tufts* or *Umbels* of *pentapetalous* yellow *Flowers*; to which succeed so many *Capsules* full

full of *Seeds*. 'Tis called *Sempervivum* because the *Leaves* are always green. 'Tis a question whether it be indigenous; 'tis usually planted on the top of *earthen Walls*, or on the *Walls* or *Roof* of muddy *thatch'd Houses*; where it propagates and spreads forth *Childings* these *Globules* of *Leaves*: It seldom flowers, but after several *Years Continuance* in a *Place*.

4. *Small Houseleek*. The round strait *Stalk*, about a *Span* high, thick beset with many inordinate oblong round *Leaves*, like unto the *Worms* or *Maggots* on *Cheese* or *Fleshes*; from whence 'tis called *Vermicularis*. The *pentapetalous* white *Flowers* are dispos'd in small *Umbells* or *Tuffs* on the top, to which succeed the *Capsulae* or *Seed Vessels*, gathered in a *Head* full of small *Seeds*.

5. *Stone-crop*, or *Wall Pepper*, is a much smaller *Plant*; the small thick conical or pointed *Leaves*, inordinately set on the *Stalks*, with yellow *pentapetalous* *Flowers* on the top, to distinguish it from the other; both of them grow on the *Walls* of *Houses* and *Gardens*, also on rough stony and craggy *Ground* and *Rocks*. This last grows with a white *Flower* at the *Mill* of *Craggy*, as you pass from the *South-east* of *Perth* in *Scotland*.

Virtues and Uses.

1. *Venus Navelwort* partakes of the same *Virtues* with the following *Crassula* and *Seda*: 'Tis said to be good in *Distempers* of the *Liver*, and for allaying the *Heat* and *Acrimony* of *Urine*; but internal *Use* of such noted *Coolers* is much to be suspected, nor are they always to be used in such *Inflammations*, as an *Erisipelas* or *St. Anthony's Fire*, where there is more need to open than to obstruct the *Pores*. It may be used as a *Repellent* to prevent the *Increase* and assuage the *Pain* of the *Piles*, and may also be of *Use* for the *Kibes* and *Chilblanes*: Its most frequent *Use* in *Physick* is to enter *Ung. Populneum*.

All of them are potent *Coolers*, fit for composing the *Motion* of the *Blood*, and allaying *Inflammations*: They are not used internally: The *Leaves* chopp'd, and apply'd by way of a *Cataplasm*, repel *scrophulous Tumours*, when apply'd at the beginning to *Phlegmons*, and allay *Inflammations*; but such Sort of *Remedies* should be cautiously apply'd, the *Consequences* of such *Repellents* being not always desirable: They are also apply'd in the *Fold* of a *Linnen Cloath* for *Inflammations* of the *Eyes*: The *Juice* is much recommended to curb the *Acrimony* of *cancerous Tumours* and *Ulcers*. The green *Leaf* of an *Orpine*, the *Membrane* being remov'd, apply'd to a recent *Wound* is a good *Vulnerary*.

Fig. 4.

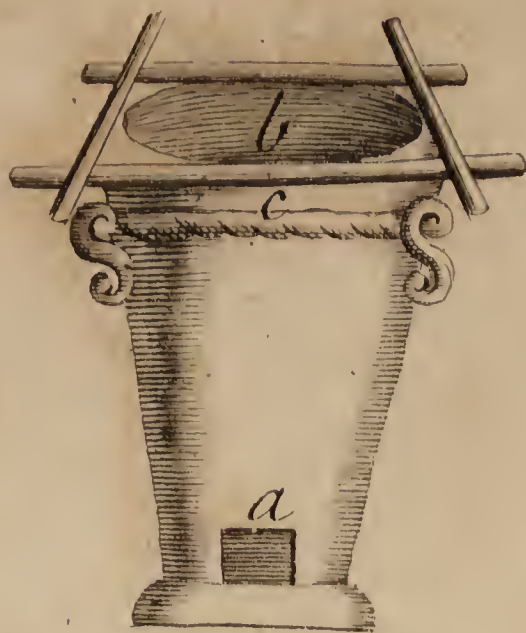


Fig. 2.

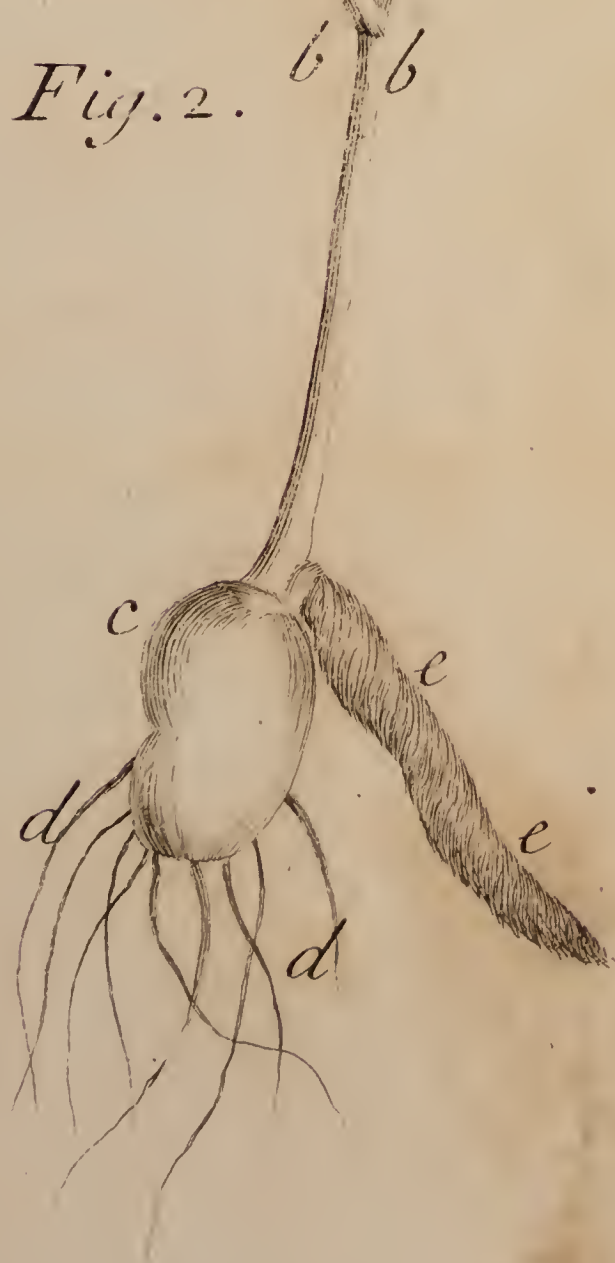


Fig. 1.

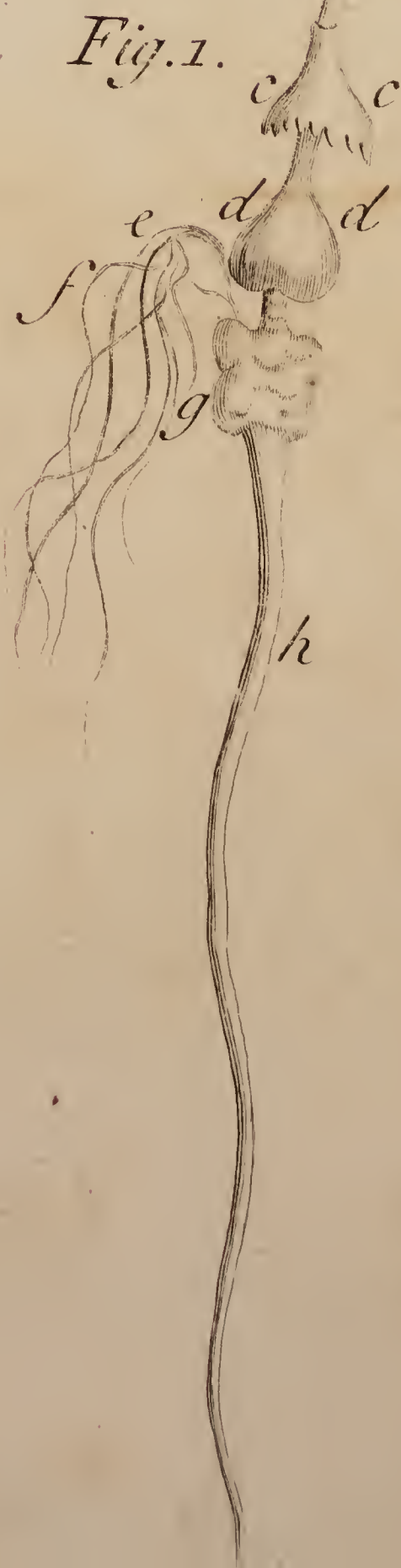


Fig. 3.



6
PHARMACO-BOTANOLOGIA:

OR,

An Alphabetical and Classfical

DISSERTATION

ON ALL THE

British Indigenous and Garden Plants

OF THE

New *London* DISPENSATORY.

In Which

Their GENERA, SPECIES, *Characteristick and Distinctive*
NOTES are Methodically described; the *Botanical*
TERMS of ART explain'd; their *Virtues, Uses, and*
Shop-Preparations declared, from proper Observation.

Together With

A large DISCOURSE on the Culture of the SAFFRON,
and the considerable Profit reap'd from it. Enrich'd with Variety of
REMARKS, both Diverting and Useful. Illustrated with
FIGURES Drawn after the LIFE.

DECAD VI.

By PATRICK BLAIR, M. D. of *Boston in Lincolnshire,*
and Fellow of the ROYAL SOCIETY.

*Miseri mortales qui Naturam ejusque Artificium abdunt, ubique
diligentia Patens, & Amplissimos solis Radios Nubecula ob-
fuscant.* Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN, at the *Golden Ball*, over-against
the *Royal Exchange* in *Cornhill*; W. and J. INNYs, at the
West End of *St. Paul's Churchyard*; and W. MEARS, at
the *Lamb without Temple-Bar.* M.DCC.XXVII.

BOOKS Printed for George Strahan,
at the Golden Ball, over-against the Royal Exchange
in Cornhill.

*C*ystitomia Hypogastrica: Or, The Method of performing the *High Operation*, in which the *Stone* is extracted out of the *Bladder*, above the *Os Pubis*, in the Region of *Hypogastrium*; faithfully collected from the Writings of the famous *Triumvirate*.

Tabulæ Synopticæ Plantarum Officinalium, ad Methodum Raianam dispositæ. Authore Johanne Martyn.

A New Table of Dispensatory Plants, distributed according to their principal Virtues. By *Patrick Blair*, M. D. and F. R. S.

Index Materia Medicæ: Or, a Catalogue of *Simple Medicines*, that are fit to be used in the Practice of *Physick* and *Surgery*: Containing, 1st. The Official Name of each, in *Latin*. 2d. A short *Botanical* Description of the *Species* that is commonly used. 3d. The Name in *Greek* and *English*. 4th. The Part that is most in use. And 5th, The Names of the Dispensatory or Shop-Preparations, and Compositions: To which are added Two Tables, in the First the *Simple Medicines* are reduced under general Heads, and in the Second they are Classed according to their principal Virtues.

The History of the *Lateral Operation*; Or, an Account of the Method of extracting a *Stone*, by making a *Wound* near the great *Protuberance* of the *Os Ischium*, through the common *Integuments* and *Levator Ani*, into the Side of the *Bladder*, without touching the *Uræthra*, *Prostrate Glands*, *Vesiculæ Seminales*, or any other of the *Urinary* or *Seminal Vessels*; first attempted by *Frere Jacques*, in *France*, and afterwards successfully perform'd by *Professor Rau*, in *Holland*; with a Postscript concerning the Introduction and Improvement of this Method here in *London*. By *James Douglas*, M. D.

A New Theory of acute and slow continued Fevers: Wherein, besides their Appearances, and the Manner of their Cure occasionally, the Structure of the *Glands*, and the Manner and Laws of *Secretion*, the Operation of *Purgative*, *Vomitive*, and *Mercurial Medicines*, are *Mechanically* explained. To which is prefix'd, an Essay concerning the Improvement of the Theory of *Medicine*. The Fourth Edition, Corrected.

An Essay of the true Nature and due Method of treating the Gout: Together with an Account of the Nature and Quality of *Bath Waters*, the Manner of using them, and the Diseases in which they are proper: As also of the Nature and Cure of most Chronical Distempers. Both by *Geo. Cheyne*, M. D. and F. R. S. The Fifth Edition, enlarged to more than double the former.



THE
P R E F A C E
TO THE
Sixth D E C A D.



THE Alphabet having brought me to Crocus offic. I could not avoid the taking particular Notice of a Plant, which affords so Valuable a Simple in Materia Medica ; and which, as it is one of the GLORIES of ENGLAND, so if cultivated in a suitable Soil, yields as great, if not greater Profit, than any of the Vegetable Kingdom.

I shall not insist on the several Heads of which I have chosen to discourse, since they are propos'd at the Beginning of this WORK. I shall only here give an ingenuous Account of the Assistance I have had in the composing of it. I have not consulted many Authors ; for to quote all who have writ on the Subject,

Subject, would only have wire-drawn these Sheets to an unnecessary Length. I have mention'd but a few of the more Modern, and for the rest, I have got my Information from the best Hands, upon whose proper Observation, and curious Enquiries, I could justly rely.

The first is Mr. Philip Miller, Gardener to the Physick-Garden at Chelsea, who, when in a more private Station, favoured me with his frequent Correspondence, communicating what he judg'd would be acceptable, with some of whose curious Experiments the Publick have been acquainted in the Transactions. It's several Years since he advis'd me to bestow some of my Enquiries on this Plant, and how far he has from that Time been assisting to me by his Letters, may be seen in these Sheets.

The next Help I made use of, is Mr. Charles Howard, in Transact. N^o 188, who has given such an accurate Account of the Culture of this Plant, with the manner of preparing Saffron, that having writ long ago, and that Transaction being now but in few Hands, I thought fit to extract for a publick Good what he has delivered on the Subject. And since Mr. Bradley has of late been making farther Enquiries on that Head, I have so compar'd both together, that what is wanting in the one, might be supply'd by the other, adding my own Remarks.

Thus I have digested the whole into a proper Method, given an Historical Account of the Root from Mr. Miller's Observations, added to my own, together with my Thoughts on its Vegetation, Propagation, and Circulation of the Sap. What Information I have receiv'd, and Observations have been made on the Leaf and Flower, shall be declar'd in due Place. In a Word, I have taken Care to omit nothing material, or worthy of Consideration, in so valuable a Plant; and to encourage to a more frequent Culture of it, I have given such an Estimate of the

the Profit to be reap'd by it, as I hope will give a general Satisfaction, especially to the Curious.

And it being my chief Endeavour to enrich every new Decad with suitable Entertainments, and Means of Instruction, I am glad that the Alphabet has so happily led me to an agreeable Variety of Plants, fit for my Purpose in this Place; for the most considerable Tribes and Terms of Art being explain'd, this 6th Decad affords several of those termed by Tournefort, Anomalous Plants. I have elsewhere observ'd, that no kind of Natural Production can be said to be Anomalous or Irregular, so long as it does not swerve from those Rules, Figures, Dimensions, &c. destined to it at Origine, by the Omnipotent AUTHOR of Nature. But what is here called Anomalous, is, when tho' a Plant may agree in its own constituent Parts, yet in as much as it partakes in some of its considerable Characteristicks with one, and in others with another of the more numerous Classes, it's in that Sense Anomalous to any one of them, but still Regular as to itself.

Thus Cuscuta and Epithymum agree with Viscum and Hedera Arborea, in being parasitical Plants, yet they disagree both in Substance and Notes; and the last two, tho' they agree in being Ligneous, yet they still disagree in Flower, though not so much in Fruit. Dictamnus albus is plac'd by most Botanists among the Multifitique by the Fruit, but it's distinct from all other Genera by the Flower. Digitalis, Elatine, Euphrasia, are Bicapsular by the Fruit, but differ among themselves, and from all others, by the Flower; v. g. Euphrasia by the Flower, might seem to come in with the Galeatæ & Labiatæ, but it has not a Gymnotetraspermous Fruit. Arum and Dracuntium have Arisarum for their Companion, but by the Fruit differ from all other Genera. Ebulus and Sambucus differ in Substance, agree in their other Characters, but are still Plantæ suæ generis. Linaria agree with Antirrhinum by the Rictus, and Delphinium by the Calcar, or Spur; but the one is Monopetalous, the other

b

Poly-

Polypetalous ; the one Multifiliques, and the other Bicapsular. The *Efula* Kinds have a singular Flower, and peculiar Fruit, are Tricoccous, Emetick, and Cathartick, with *Ricinus* ; but it differs from them by an apetalous Flower, and not lactescent Juice.

Sambucus, *Linaria*, *Arum digitalis*, are made distinct Genera by some, and by others they are join'd with *Ebulus*, *Elatine*, *Dracuntium*, and *Gratiola*.

For the rest, *Cupressus* is one of the Ever-green Trees ; *Cyperus* of the *Bulmiferæ*, and *Daucus* of the *Umbelliferæ*. *Dens Leonis* introduces the Lactescent and Papescent Tribe : *Dipsacus*, and *Cupatoreum Canabinum*, are of the Flores *Flosculosi* *Eryngium*, by some Class'd among the *Umbelliferæ*, by others among the *Plantæ Flore composito*. *Erysimum* and *Eruca* are the tetrapetalæ *filiculosæ*. I have made some uncommon Remarks upon *Equisetum*, and join'd *Salicornia*, or *Kali geniculatum* with it.

I submit the Performance to the Censure of the Impartial, Judicious, and Learned. What remains, is to give satisfactory Reasons for the unusual Length to which this Decad is extended. They who have considered the former, may observe I take Care to omit nothing I can find materially to be advanced concerning any Plant I treat of ; and according as it requires, I rest contented to discourse of it in the usual Manner, but when any Thing extraordinary occurs, I pass from a bare Description to a Dissertation. This being what I at first propos'd, I could by no Means depart from my Method, when so Notable a Plant came in my Way, and when I found it afforded so much Matter of Discourse, I should have been injurious to the Publick, and wanting to my self, if I had not perform'd what was to be expected ; and if I had not communicated what I judg'd would be both diverting and profitable. And whereas before I had finish'd this Discourse on one Plant, the Number of the Sheets propos'd
for

for every Decad, was partly compleated, and the Expectation in the Reader of seeing so many more treated of within that Bounds, might thereby be frustrated, I judg'd it more convenient to make out my Complement of Plants, being in hopes that none who have got the former, will be discouraged either by the additional Price or Bulk of this: And if I have added that of a Copper-Plate Print to the Charge, the rendring the Subject Matter more clear, and intelligible by it, will, I hope, recompence that. The third Reason is, when the Letter D. and E. contain but few Plants, I rather chose to include those contain'd in both, than abruptly to break off in the Middle of either; and thus I have so ordered it, that the next Decad shall begin at the Letter F.

Some may imagine, that by so small a Progress in the Alphabet, these Decads will exceed the Number I at first propos'd; but when 'tis considered that many of the following Plants are already treated along with their Congeners in the preceding Decads, the subsequent Catalogue will be found pretty much abridg'd, as has been intimated Decad 4.



The

The PLANTS of the Sixth DECADE.

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PHARMACO-BOTANOLOGIA:

OR, A

TREATISE

OF

DISPENSATORY PLANTS,

Alphabetically and Classically disposed.

DECAD VI.

Critbnum vide *Feniculum*.

I. CROCUS.

A DISSERTATION.

THIS beautiful *Plant* is so much esteemed for the *Excellency* of *Saffron*, which it produces, that I hope a Discourse on its several Accidents will not be improper under the following Heads:

1. The *Synonima*.
2. The *Tribe*, containing the general Character of the whole *Class*, and the particular *Notes* of this *Genus*.

P p p

3. The

3. The Description of the *Root*, with its various *Appearances*.
 4. Suitable Remarks on its *Vegetation*, Manner of *Propagation*, and *Circulation* of the *Sap*, &c.
 5. A brief Account of the *Leaves*.
 6. What's most remarkable in the *Flower*.
- To which shall be added,
7. The *Culture* of the *Plant*.
 8. The Manner of *preparing* and *curing* *Saffron*.
 9. An Estimate of the *Profit* of the *Product*.
 10. Its eminent *Virtues*.
 11. Its several *Uses*, and Shop *Preparations*.
 12. Its *Antiquity*, and where the best *Saffron* is prepared.

1. *Crocus Sativus*, C. B. 65. Tournef. Inst. 350. Boer. Ind. 120. J. B. 2. 29. 237. *Autumnalis*, Raii Hist. 1170. Synopf. Stirp. Brit. 3. 374. Philosoph. Transact. N^o 380. *Florens* & *non Florens*, C. B. Math. *Crocum Austriacum*, Math. Epist. lib. 5. 188. *Crocus floridus* & *sine flore*, Moris. Hist. 2. 335. True Saffron.

2. The T R I B E.

Mr. Ray rightly distinguishes the *Seed-Leaves* of all Manner of *Plants* into *Monocotyledones* and *Dicotyledones*. The *Monocotyledones* are again distinguished into *Apetalæ* and *Bracteate* by Boerhave, i. e. with only one *Seed-Leaf* and an *Apetalous Flower*, and such as have a *Petaloid Flower*, as those of this Class. ii. Authors were formerly contented with distinguishing the *Roots* of those of this Class into *Bulbosæ* and *Bulbosis affines*. But Dr. Morison is more exact, for he ranks them thus: 1. They are *Nodosæ* & *Fibrosæ*, as *Asphodelus*. 2. *Tuberosæ*, tuberous, round and carnosous as *Crocus*. 3. *Tuberosus*, oblong and jointed, as the *Irides-Tuberosæ*, of which already. 4. *Bulbosæ proprie dictæ*, and these are either *Tunicatæ*, compos'd of several Coats from the Center to the Circumference, as *Onions*, *Leeks*, &c. & *Nucleatæ*, compos'd of several small tunicated *Bulbs*, united at their sessile Parts, as *Garlick*; *Squamosæ*, whose Coats are not re-united at the *flowering Stem*, but reach near half Way like the *Scales* of a *Fish*, as most of the *Lillies*. iii. Their *Leaves* are long, simple, or undivided, without *Foot Stalks*, and these are broad, stiff, light, green, two edg'd, and Sphear-pointed, proceeding from the Sides of each other, as *Irides Tuberosæ*, or broad, bluish, green, arising in a Circle from the *Roots*, as *Tulips*, *Leeks*, broad and short like most of the *Lillies*; long, narrow, Grass-like, dark green, as *Crocus*, &c. *hollow* or *fistulous*, like *Onions*. iv. The

iv. The *Flowers* are *Hexapetalous* or *Hexapetaloid*, i. e. *Monopetalous*, divided into six *Segments*, where I observe, that both Dr. *Morison* and *Tournefort* depart from their own *Distributions*. For though *Morison* distinguishes by the *Fruit*, yet he excludes all *Flowers* from this *Class* but the above-named. *Tournefort* distinguishes by the *Flower*, and yet he makes a *tricapsular Fruit* the most certain *Character* of this *Tribe*; thus he admits *Ephemerum* here, though it be only *Tripetalous*, because of its *Fruit*; and *Morison* excludes it, because it's not *Hexapetalous*. v. The *Fruit*, of whatever *Figure* or *Dimensions*, is always *Tricapsular*.

The particular *Character* of this *Genus* is, a round, tuberous, parenchymatous *Root*, a long, narrow *Grass Leaf*, with a white *Line*, a *Monopetalous Flower* divided into six *Segments*, and a *Tricapsular Fruit*.

3. The Description of the Root.

The *Root* of this *Plant* has such various *Appearances*, that it requires special *Consideration*, which obliges me to give an *Account* of it, both according to the latest and most modern *Authors*, and from the proper *Observation* of my worthy *Correspondent* Mr. *Miller* and myself. C. B. in his *Matthiolus*, has two *Figures* of it, viz. *Crocus florens* and *non florens*, and Dr. *Morison's* Epithet of *Crocus floridus* and *sine flore*, seem to imply, that they thought it vary'd from the *florid* to the *barren*, or not *florid Species*, though none of them have observed the *Alteration* of the *Root* of the latter, which has of a long *Time* been well known to *Saffron Gardeners*, and those who are versed in the *Culture* of it for *Profit*. J. Bod. a *Stapel*, as quoted by Mr. *Ray*, is the first I shall mention who has taken *Notice* of these *Variations*. He says, "That in the *Autumn* and *flowering Time* it has but one *Bulb*, "next *Summer* it has two, the upper first of all least, from whence "the *Leaves* proceed, and together with them it encreases by *De-* "grees, until it become so big as the second, or that below, and con- "tinuing to augment, it acquires a firm and solid *Substance*, while "the lower *Root* decays apace, which before next *Autumn* is vanish'd "quite away." Herman's general *Character* of it is, That it has a two- fold *Root*, the one below, to which the other above is adherent. To which Boerhave adds, That the upper is tuberous, round, not fibrous, sending forth the *Leaves*; the lower adherent to it sends forth radical *Fibers* at the sessile *Part*, this still remaining is that which was uppermost the preceding *Year*, which, after the other has arrived at its full bigness, vanishes and dwindles quite away, both being enclosed in one common *Membrane*. *Tournefort* is to the same *Purpose*, but does not determine the *Time* of the encrease

increase of the one and the decrease of the other; nay further, he has delineated both Roots while the Plant is in the full Bloom, which seldom happens, so that Dr. *Douglass* is more exact, who has only delineated one *Bulb* sending forth the tender *Leaves* and *Flower* above, and *Fibers* at the sessile Part below.

Mr. *Miller* being the first that advised me concerning what he calls *Tap-Root*, and having sent me a Bundle of the *Plants* with the *Leaves* in their full Growth, being then the latter End of *February*, and the *Mother Earth* round the *Roots*: in separating them in order to be planted, I observed the *Roots* longish, gross at the Top where the *Leaves* were sent forth, and gradually tapering like a *Carrot* about two Inches long, and terminating wholly fibrous; removing the *Earth*, I observed the common Membrane somewhat thicker than that of an *Onion*; upon removing of this also, I agreeably beheld the round *tuberous Root* with its *Leaves* above, about the bigness of a *Chestnut*, sending forth a short, small, round Portion from the Center below, like to that of a *Turnip* of the same bigness; to this was adherent, a long, small, tapering *Root*, about the grossness of the End of an ordinary *Tobacco Pipe*, about an Inch and a half long, flat towards the *Bulb*, which is adher'd by this small Portion beset with small *Fibers* all round, and growing smaller, till in the Descent it at last terminated wholly *fibrous*. Every one of the *Plants* of the Bundle, which were about a Dozen, were after the same Manner, only some were larger, others less. This made me imagine I had now seen the *Bulb* and *Tap-Root* in their full Growth, but the Manner of Propagation was the Question.

Some Time after, when I considered *Crocus* was at Hand to be treated on according to the *Alphabet*, I found it requisite to propose my Doubts to Mr. *Miller*, in the following Quæries:

1. *After what Manner is the Species propagated?*
2. *Whether does the Tap-Root spring first, or the Bulb?*
3. *At what Season do the Leaves spring forth?*

To which he had the Civility to favour me with the following curious Return; and which, tho' he first modestly declined it, yet he at length allowed me to insert it here for publick Satisfaction, as follows:

S I R,

S I R,

Chelsea, November 17, 1725.

IN Answer to your repeated Request, I send the following Return to your Query.

I. As to the Propagation of the Species.

This is only by the Root or Off-sets, which the old Roots produce in great Plenty, for I never yet saw any Thing like Seed or a Seed-Vessel produced, although I have let stand great Quantities of Flowers untouch'd purposely to try. And this leads me to the 2d Query, viz. Whether the Tap-Root spring first, and the Bulb be afterwards formed? So soon as the Roots begin to shoot upwards, there is commonly two or three large Tap-Roots sent forth from the Side of the old Root, which will run downright two Inches and a half, or more, into the Ground, at the Place where these Roots first come out, from the old one will be formed a Bulb (sometimes, tho' not always, as you'll hear presently) and as this Tap-Root decays, the Bulb will encrease in its bigness, till at last it quite falls off, and leaves the Bulb entire, which commonly happens in April when the Green begins to decay, but many Times these Tap or Carroty Roots never produce any Bulbs but always retain the same Figure, and for ever after I believe are barren; for I planted a Parcel of these Carroty Roots, four Years ago, in a little Bed where they have ever since remained, but have not produced me one single Flower, notwithstanding they have produced a numerous Off-spring of the same Carroty Roots: And the People about Saffron-Walden are well apprised of this Barrenness, and therefore throw away all such Roots when they make a new Plantation, and have a Name of Distinction for them, which at present I can't recollect; but as this Change of the Root is not peculiar to the Saffron only, suffer me to digress a little to give you some Account of this Matter. In the Parish of Fulham near London, the Gardeners used to drive a great Trade in the Junquil, or *Narcissus juncifolius flore multiplici*, at which Place was the greatest Quantities of those Roots raised for Sale as perhaps was in any Part of England, and turn'd to as great Account for the Master as any Crop they could imploy their Ground, till within these seven or eight Years, since which Time most of their Roots have turned Carroty, and so proved barren, or have produced only single Flowers; so that the Gardeners being hereby disheartned, have thrown them out entirely, neglected to cultivate them, satisfying themselves with this Reason, That their Ground is tired with them.

But let us return to our Crocus: Besides those Roots already mentioned, there will be three or four small Bulbs form'd upon the upper Part of the Root, and some underneath, which from the first Appearance assume the round Shape of its Parent Root, and have no Tap-Root belonging to them,

those on the upper Part of the Root rarely emit so much as a Fiber, but receive their Nourishment immediately from the old Root, but those on the under Side send forth many Fibers all around by which they drew their Nourishment from the Ground, these being parted from the old Root much sooner than the other, and therefore stand in need of fit Organs for receiving Nourishment. I have sometimes taken up some Roots of Crocus, through the Middle of which hath been a Root of the Gramen Caninum or Couch Grass, which some People have imagined, had Strength enough to force its Way through the Crocus Root; but the Truth is, the Root of the Grass closely adhering to the old Root of the Crocus just at the Place where the young Roots were emitted, these young Roots being quick of Growth, envelop'd the Root of the Grass: And thus have I seen several Roots run through each other in the same Manner.

But besides these Off-sets mentioned: Directly upon the upper Part of the Root is one large Root formed, of equal bigness with the old one, and this is the Time that this Root is *radix gemina*, as Tournefort calls them, for they are not so at any other Season, and therefore I think it a very improper Appellation; for when the new Roots are perfectly form'd, the old one, with its Coats, falls off and dies, and leaves the new Root all single: This hath occasioned several People to doubt of what Tournefort had said of the Roots, till I took up some Plants at that Season, and with them the two Roots of equal bigness, i. e. the old one at bottom, and the new one at top. [More of this Letter hereafter.]

I planted these in my Garden, where they remained barren some Years, and finding myself disappointed, I neglected them. After the Receipt of the above Letter, I call'd to Mind, that a Gentleman in this Town had some Plants of this *Crocus Autumnalis* in his Garden, which flower'd with him one Year, but never thereafter, he does not well remember how this Barrenness happen'd, but to the best of his knowledge, he transplanted it, after it had flower'd, into a warmer Place, and rich black Mold; he allow'd me to raise the whole Bundle in the Beginning of December, when each had only three or four Leaves at their full Length.

Upon viewing of the Root, I was surpriz'd with a different Appearance from what I had seen or heard of before. From the upper Part of the Bulb, where it sends forth all the Leaves within a common Tunicle, at their Exit there was an Appendix about an Inch and half long, about the grossness of a large Turkey or Goose Quill, Cylindrical and blunt, without the least radical Fiber by which it might receive the Nourishment, smooth or polite, and bluish in the Surface, consisting of several circular Lines when cut transversly, white, with

with an hard greenish Center like a *Carrot*, when it has push'd forth the *flowering Stem*, not unlike the *Stolones* of some running *Root*, such as the *Mints* below Ground, only the Extremity descended obliquely, instead of ascending to send forth *Leaves* to produce a new *Plant*; and what is most remarkable, this did not happen to one or two *Plants*, but to the whole of the *Bundle*, which were above 20 distinct *Sets*, differing in nothing but *Majus & Minus*. The *Bulb* seem'd at the same Time to be pin'd and emaciated, though it emitted large radical *Fibers* like those of a *Leek*. This Singularity in the Structure oblig'd me again to advise my good Friend of it, who was so kind as to let me have his Thoughts in the following Letter:

Chelsea, February 24, 1725-6.

S I R,

“ I Received yours in Answer to my last, with the Figure of the
 “ *Roots* of some *Sets* of the *Crocus Autumnalis* you have taken out
 “ of the Ground in a Garden with you. I have found a Figure in
 “ *Dodoneus* which corresponds with it; and these *Roots* are no new
 “ Thing with the *Saffron* Gardeners, who always throw them away
 “ when they make fresh Plantations. Your Figure does not agree
 “ with my *Tap-Roots*, as you'll see by the Figure taken as just from
 “ the Life as I could, in mine you'll find the *Bulb* turn'd sideways,
 “ which I still find to be constant in all the *Roots* I have examin'd,
 “ which have been a great many, which makes me suspect these
 “ *Tap-Roots* are occasion'd by the accidental Position of the *Roots*
 “ in Planting, which may retard the ascending *Sap*, the *flower-*
 “ *ing Stem* being thereby turned into a crooked Figure, and the *Tap-*
 “ *Roots* are full of Longitudinal Vessels of a considerable Dimension,
 “ so that the greater attracting Power of the *Sap* being hereby di-
 “ verted downwards, the *flower Stem* may be quite destitute of proper
 “ Nourishment. The Method you propose to remedy this Inconve-
 “ nience will not do, for I have removed some of these *Roots* at the
 “ Season when the *Tap-Roots* were forming, and this alone destroy'd
 “ them all, so that I am perswaded the cutting them off intirely
 “ will kill them. The Method I used with the *Junquills* was, to lay
 “ some Tiles just under the *Roots* to prevent their running down-
 “ wards, but this hath not answered, nor do I think it possible
 “ wholly to recover them; for the Alteration is not only in the
 “ Root and Flower, but also in the Leaf or Blade, which before was
 “ Fistulous, but after this Alteration in the Root, becomes a plain
 “ sulcated Leaf, and if it ever Blossoms after, the Flowers are large
 “ and

“ and single, which before were small and double. But the Saffron,
 “ after the Change of its Roots, produces a small narrow Blade, sel-
 “ dom half the Length of those in a natural State. I am,

Your humble Servant,

PHILLIP MILLER.

These additional Observations plainly shew, that neither the *Carrot* Root, mentioned by my ingenious Correspondent, nor this Bastard *Tap-Root*, as I may call it, are merely accidental, or what may be called *Lusus nature*, but certain Diseases incident to such Roots; for were they Accidental, they would not have the same Appearances to different Persons in different Soils and Climates, nor would so many taken up together, have such a Resemblance to each other, as I have twice observ'd. This leads me to make,

4. *Suitable Remarks on the Vegetation of these Roots, in their various Appearances.*

From the above Historical Account of the Structure of these Roots, I shall consider them in their *natural* and *preternatural* State. In the *first* is the *Bulb* and regular *Tap-Root*: In the *second*, the *Carrot* Root and the *Bastard Tap-Root*. The first two belong to the *florid Species*, the other to its Variation into *Barrenness*. For the better understanding of what I am to advance on the Subject, I shall premise some general Considerations, as, I. All Plants are 1. *Annual* both in Root and Surface. 2. *Perennial* in the Root, *Annual* in the Surface. 3. *Perennial* in Root, Stalk or Trunk, and Branches, *Annual* in Leaves, Flowers and Fruit. 4. *Perennial* in Leaf also, at least to Appearance, *Annual* in Flower and Fruit, as the *Ever-Greens*. II. The *Annual Roots* are *Fibrous* and *Multifid* or *Simple* and *Carnous*. The *Perennial Roots* are either *Lignous*, *Simple* and *Carnous*, or *Fibrous* and *Running*. All Plants are either propagated by the Root, Slip, Graft or Cion, Bud or Seed. For though its highly probable all Plants were first raised from the Seed, and destinated to be so: yet to prevent the *Annihilation* of the *Species*, and other *Inconveniencies*, should any Plant fail to produce Seed: these other Means are so provided by the Divine Providence to supply such Defects, suitable Preparations are always made for Propagation the one Way, when other Means are ready to fail. For the Propagation by the Seed, which always happens to *Annuals*, we are to consider the first Principle of *Vegetation*, which begins

begins at the Point of the *Radicle*; which consisting of one or more Pores, by the *Fotus* of the *Earth* they are first dilated in order to receive the adapted *nutritive Particles*, which crouding in and soon distending the *Lineaments* of the *Sap Vessel* pass from thence to the *Lobe* or *Lobes* of the *Seed Leaf*, and are the Means of explicating it. What's *superfluous* returns by the *Venal Sap Vessel*, and stretches forth the *Fibres* of the *Root* in the same Manner; and thus the *Circulation* and mutual Reception of the *Sap* in the ascendent and descendent *Vessels* is once begun to form the *Seed Leaves*, and the *Plume* (so called by Dr. *Grew*) succeeds; but according to the Structure of the *Root* it's rendered more or less fibrous, or is more or less divaricated into *Ramifications*. Thus, the simple *parenchymatous esculent Tap*, or more oblong and rounder *Roots*, are but very little divided into *Fibres*, but a Circulation is maintained betwixt the *Root* and *Leaves*, untill the *Root* has become pretty big or gross, as *Turnips*, *Radishes*, *Carrots*, *Parsnips*, *Onions*, *Leeks*, &c. which is chiefly done that the *Sap*, by so many repeated *Circulations*, may be so attenuated as to be capable of ascending higher in order to form the *flowering Stem*, produce the *Flower*, and perfect the *Seed*, which the gross Particles, upon their first entering the *Root*, until duly refin'd and subtiliz'd, were not capable to do. This shews the Use of these called *Bottom Leaves*, it lets us see the Reason why the *Root* must be at its full Bigness before any Means of Propagation can be provided.

Why no sooner does the *flowering Stem* ascend than the *Root* begins to harden and to decline? It lets us see that the *annual fibrous-rooted Plants* push forth the *flowering Stem* in a very short Time, because there being no Bounds for the *Sap* to remain in the *Root*, it must streightway ascend, whereas the *flowering Stem* of many of the *parenchymatous* do not ascend until the second Season, when the *Sap* being attenuated to the last Degree in forming the *Seed*, and the Design of *Propagation* now being answered, the whole *Plant* dies, as Animals that have arriv'd at a good old Age. II. For the *Vegetation* of those called the *perennial Roots* of *Herbs*, it often happens that so much *Sap* is required to maintain such of them as are very large, that the Nourishment is chiefly exhausted without the *Plants* being able to perfect the *Seed*, as in *Cinara* or *Artichok*, and *Helenium* or *Elecampane*, &c. where no sooner is the *Plant* at its full Bigness, and *flowering Stem* form'd, than at the proper setting Time, of which hereafter, new *radical Fibres* are stretch'd forth, and *Off-sets* for propagating the *Species* are form'd to supply the defect of the *Seed*; and in this Sense these commonly esteem'd *perennial Roots* are only annual, for no sooner has the *flowering Stem* perform'd its Office in vigorously pushing the *Flower* and perfecting the *Seed*, if it is able, than it decays, and the *Root* which nourish'd it dies also: so that

the whole *Plant*, however *perennial* in appearance, is only *annual* in duration, being succeeded by a new *Root* and new *Surface* next Year, as is well known to expert *Gardiners*, who carefully remove the *old rotten Roots* from the *Artichokes*, that the new fresh *Roots* may be the more vigorous; and this is very evident in *Asparagus*, where, if the new *Shoots* are prudently cut as they appear in the *Season*, the *Sap* being diverted, daily pushes forth more, but no sooner is the *flowering Stem* permitted to remain and produce *Flowers* and *Berries*, than the *Root* which nourished them perishes with them, and the *Asparagus* may be properly said to have an *annual Root* in that Sense.

Which leads me to the fourth Consideration, viz. That when one Means of *Propagation* fails, another is provided, e. g. In the *fibrous running Roots* which every where either send forth *Stolones* or *Shoots* from below, or emit *radical Fibres* from the *Joints* above Ground. Of this Sort *Mentha*, which though it *Flowers* annually yet seldom produces *Seed*, and *Vinca Peruviana* flowers plentifully in the *Season*, but never produces *Pod* or *Seed*, unless it be deprived of its *Climbers* or *Creepers* and only a few *Flowers* left, and then being confin'd to small Bounds in a *Pot* with Earth, it has been known to *fructify* and to produce *Seed*.

My last general Consideration is, concerning the *setting* and *shooting* Time, which I have taken Notice of in *Botanick Essays*, and in the Fourth of these *Decads*, the two *Solstices* for the one, and the *Spring* and *Autumn* for the other. By the *setting* Time I mean, when after the *autumnal Office* is perform'd, the *annual Surface* is decay'd, the *Wood shoots*, if in *Trees* and *Shrubs*, are stretch'd forth in their full Length for that *Season*, and the Pressure of the *Atmosphere* is of such Force, that the *external Pores* being shut, the superfluous *Particles* cannot evaporate, it descends with greater Vigour, and pushes forth the *radical Fibres* more and more every where. This continues until the Sun begins to approach nearer our Horison, the nutritive *Particles* are more plentifully receiv'd into the *radical Fibres*, and ascend in greater abundance to swell the three several Buds, viz. those for the *Vernal Shoot*, *Leaf* and *Flower*, this is called the *first shooting* Time. When again the *Leaf* is fully form'd, the *Spring Flowers* decay, and the Winter Provision for the *annual Surface* has perform'd its Work, the *Sap* begins again to be employ'd, to stretch forth the *radical Fibres* that it may be the more capable for a fresh Supply of *Sap* for pushing forth the *autumnal Shoot*, and ripening the *Fruit*, and perfecting the *Seed*, and this happens at the Summer Solstice. I have mention'd this last, that I might the more regularly trace the Vegetation of these *Crocus Roots*, the Manner of their *Vegetation*, and the Reason of these several Appearances.

The vegetative Principle begins in these Heads, as it did in the Seeds of the Plants. They are round, with a flat upper and lower Surface in the one, the Pores for the *radical Fibres* are regularly dispos'd in the other, in the other *Orifices* for the *Leaves* in the *Circumference* and the *flowering Stem* are duly situated also. The proper Time for *planting* them is the latter End of *May* or Beginning of *June*, just before the setting Time. The *Fetus* of the *Earth* renders the *Sap* contain'd in the *Parenchymatous Vessels* of the *Bulb* more fluid, and capable of Motion; being thus rarify'd, it swells and dilates the *Pores*, especially for the *radical Fibres* which are fully form'd, during the due Term of this *setting Time*, which finish'd, the *autumnal shooting Time* begins, the first Part of which is spent in maintaining the Circulation between the *Bulb*, *Leaves*, and *flowering Stem*. After the *Sap* is duly prepar'd, it at last ascends in the *Center* and forms the *Flower*, the most subtile Parts of which are three *delicate Filaments*, the Appendage of the *Stylus*, about which so much Care and Industry has naturally been employ'd to render it the most refin'd Substance.

Curious Gardeners and *Florists* take up the *bulbous Roots* of *Tulips*, and other delicate *Flowers*, upon the decay of the *annual Surface* in the Summer, and let them remain out of the Ground till near the *Winter setting Time*, to render them more firm and solid, to prevent too great admission of superfluous *Sap*; now when they are of so small an extent, and to preserve them from degenerating from those delicate Stripes into which their *Flowers* had formerly broke. The same is done with this *Crocus* after the *annual Surface* is decay'd in the *Spring*, their Heads or *Bulbs* being firm and solid, and of small Bounds, the *radical Fibres* may be more lively push'd forth at the *Summer setting Time*, and the *Sap* circulating more frequently, may be better attenuated and prepar'd for the *annual Surface* and *Flower* springing forth in the *Autumn*. 'Tis true, this is only done once in three Years, because of the great Pains in raising and planting so many, but were it done annually, I'm convinc'd the Product of *Flowers* would be the greater.

It's well known, that at the *taping* (as they call it) or cutting off any considerable Trunk or Branch of a *Tree*, the *Sap* being diverted in its direct Ascent, tends laterally, and pushes forth many small Twigs. It's also known, that no sooner is an *Ovum* of a Female animal Body impregnated than an adventitious Substance is generated to communicate with the impregnated Female *Uterus*, and to derive the Nourishment for the *Fetus* from thence. The *Sap* thus set in Motion in the *Crocus Head* circulating frequently in so small Bounds, ascends directly to form the *Flower*, and no sooner is it form'd than it's pluck'd or pull'd up, the nutritive Particles being thus stopp'd in their Career, tend immediately laterally, and first enlarge the Compass of the

the common Membrane, then send forth a round Portion, as it were a *Navel String*, from above or the Side, and sometimes below the old *Bulb*, new *Tubercles* are here and there form'd at certain Distances like the *Cotyledones* of the *Uterus* of a pregnant Cow; these *Tubercles* increase by the *Sap* flowing more plentifully by this new *Chanel*, and the *Navel String* or *Body* of the *Tap-Root* is more and more augmented and stretch'd forth, while the *Sap* being more parsimoniously bestow'd on the old *Bulb* it decays apace, the Circulation being now chiefly maintain'd betwixt the *Tap-Root* and its new *Bulbs* the *Leaves*, the former Assistants to it wither and dry up also, so that the annual Surface and the old *Root* having perish'd, these Fibres of the *Tap-Root* and their *Bulbs* have the Circulation now confin'd within themselves; and last of all the *Tap-Root* dries up as the *Navel String* of a new-born Infant, and the *Bulbs*, being the *Roots* of so many new Plants, remain separate.

The next Thing I am to endeavour to account for is, the preternatural State of these *Heads* or *Bulbs*, which, instead of producing the *Tap-Root* for Propagation, only produce two kinds of *barren* or *bastard Roots*.

The first is the *Carroty Root* mentioned by Mr. Miller, who judiciously observes, these *Carroty Roots* never produce *Bulbs* but remain *barren*; this is the same with my Observation, only he says, the *Tap-Root* proceeds laterally from above the old *Bulb*; what I observed was, this *Carroty Root* was an Excrecence adhering by a small Portion to the old *Bulb* below; but be that as it will, it must be the Effect of too gross Particles, which never duly circulating or being truly attenuated so as to ascend and form the *Flower*, only remain in the Ground, and maintaining a partial Circulation, as I have observed in the *esculent Tap-Roots* before the *flowering Stem* is form'd, they neither contribute towards the *Flower* nor Propagation of the *Root*. The same may be observ'd of the other *Bastard Root* with the *Appendix*, which Mr. Miller has so accounted for, and I have so describ'd, as no more need to be said about it.

The last Thing I shall observe concerning these *Roots*, is the Admonition of my *Cambridge Correspondent*, viz. That it requires Judgment to choose the *Heads* at the Sale of them, the fine bright *Heads* is reckoned the best, and a *dull brown* one the worst, by which it would seem, there must be a bad Disposition in the Parts of these *Bastard Roots* *ab origine*, and it's probable these *dull brown* ones must be they, which become such, and therefore should be thrown aside as useless; but I only propose this as a Conjecture.

Upon the whole, I'm in hopes these three Delineations from the Life will give a better *Idea* of what I have advanc'd; that of Mr. Miller shews the true Manner of Propagation. aa. Shews two of the

Leaves

Leaves of the *annual Surface*. *b.* The *Theca* or *Vagina*, in which both are enclos'd at their Exit. *c.* Part of the *common Membrane*. *d.* The *old Bulb*. *e.* The *new Bulb*, with the *Navel String*, by which it proceeds from the *old Bulb*. *f.* The *radical Fibres* of the *new Bulb*. *g.* Another *Tubercle* for a *new Bulb*. *b.* The *Tap-Root* as it descends into the *Ground*.

Fig. II. *aaaa.* The Leaves of the *annual Surface*. *b.* The *common Theca* covering the *Leaves* at their Exit. *c.* The *old Bulb*. *d.* Its *radical Fibres*. *e.* The *preternatural Appendix*.

Fig. III. Represents the *Carrotty barren Root*. *aa.* The *Bulb*. *b.* The Portion from the lower Part of the *old Bulb*. *c.* The *Tap* or *Carrotty Root*. *d.* The *radical Fibres*.

Dr. Douglass has so accurately delineated the *Bulb* when the *Plant's* in the *Flower*, that it seems to be more natural than that of *Tournefort* who delineates the *Rudiments* of the *new Bulb*, which is seldom to be seen at that Time.

5. *The Description of the Leaves.*

Mr. Charles Howard, in his *Directions* concerning the *Culture* of *Crocus*, of which hereafter, bids, *Hoc or pare the Ground* about a *Fortnight* before *Michaelmas*, as soon as the *Roots* begin to shoot or spire within the *Ground*. This is to be understood of the *annual Surface*, for the *radical Fibres* must have been form'd before, and there is no fear of disturbing them by cleaning of the *Ground*. This I take Notice of, because it has of a long Time been the general Opinion, that the *Flowers* appear first, which brings me to the second Part of *Mr. Miller's* first Letter, where he observes, *That most Authors have been mistaken as to this Article, in saying, the Flowers appear in the Autumn and the green Leaves appear in the Spring, whereas it's in this as in the Crocus Vernus. The green Leaves come up first, and arise to an Inch and a half, and then the Flowers come up in the Middle, and in a few Days get above the Green three or four Inches, but the Blades continue growing all the Winter. I have taken, continues he in the above Letter, some Blades at the latter End of November, which have measured fourteen Inches, I cut off some of these Blades close to the Ground, to try what Effect it would have on the Roots. When I took up my Roots they were little larger than large Pin Heads. October the 3d, I moved some of the Roots as the Flower was decaying, and though it was done with great Care not to hurt the Fibres, yet the Roots in the Spring were very small, and have not produced one Flower since, which is three Years ago. December the 28th, I removed another Bunch of Roots with the*

same Care, these were larger and fairer than the former, but have as yet remained barren. March the 4th, I removed another Parcel which were entirely form'd, but the Green very fresh, these have remained two Years to all Appearance, large round Roots as ever I saw, yet have not produced me one Flower since, nor is the Blade half so strong as before.

These curious Observations bring into my Mind the following Considerations. 1. There is an absolute Necessity of an annual Surface to maintain the Circulation of Sap in any Plant, in order to make it produce, flourish or fructify. Vernal Saffron Roots have five, six, or seven Leaves in the Circumference which appear before the Flower, as Mr. Miller observes the Autumnal has also, by which Means the Circulation betwixt these tender Leaves and the Root is maintain'd until 'tis duly prepared and attenuated, and then being render'd more subtile, it ascends directly in the Center, and pushes forth the Flower all of a sudden, where the three Filaments of the Style being in the Center of all, is still the more refin'd. 2. After the Flower is past, these Leaves acquire a greater Length, but are fewer in Number, for they do not then exceed four, or at most five, as the bottom Leaves of another Plant decay when the flowering Stem has fully mounted. 3. When the Plant is not florid, or is barren, the Leaves occupy the Center, and are enclos'd in a common Sheath at the Exit, as is the flowering Stem of the florid Species. - If it is objected, that some Plants produce a flowering Stem before any annual Surface appear, that's only to be seen in such Plants as have running Roots which lie Horizontally, where the Sap having large Bounds to circulate, the more subtile mounts at certain Distances to form the flowering Stem and Flower, when 'tis not capable to form the annual Surface at the same Time, as in *Tussilago Petasites*, &c. but this does not happen to Roots of determinate Dimensions, that do not stroll or run out as the Creepers in the Ground do.

The Leaves then are long, narrow, dark, green, Grass-like, five, six, or seven in a Circle, sulcated above with a Longitudinal white Line, arrive at their full Length in the Winter after the Flower is past, and continue till the Month of April or Beginning of May, when they wither and decay. And here I must observe, that Mr. Bradley's Direction to tie them together at the Top to stop the Circulation in order to make the Heads become bigger, seems not to be well founded, for by what is said it appears, if any Part of the Plant is hurt, whether Bulb, radical Fibres, or Leaf, it does an Injury to the Plant, and is a Means to make it become barren, so that the Method taken with Shallots, Garlick, or Onions, to tie the Leaves together or trample them down that the Roots may be the bigger, will not do in this Case.

6. Description of the Flower.

Dr. Douglass has so accurately describ'd the *Flower* in *Transact.* N^o 380. that little remains for me to say. Its *Stem* arises in the *Center*, enclos'd in a common *Theca* or *Vagina*, tubulous for about two or three Inches; above this *Theca* 'tis enlarg'd into a *Flower*, in Shape like a *Funnel*, urceolated of an oval Figure not fully expanded, at the beginning *Hexapetaloid* or *Monopetalous*, divided into six *Segments* of a beautiful darker *Purple* without, lighter within, with darker *Veins* intermixt with a whiter *Colour*. From the inner *Surface* of the three largest *Segments* there arise three *Stamina* of a whitish *Colour* inclining to a white *Purple*, with proper, longish, erect, forked, yellow *Apices*, like the *Tongue* of a small *Bird* loaded with the *Farina fecundans*. The *Ovarium* or *fructus Rudimentum* is situated at the *Base* of the tubulous Part of the *Flower*, endow'd with a long small *Stylus*, which, when it hath reached the upper Part of the *Stamina*, is divided into three *Portions*, yellow at the *Beginning*, narrow at their *Origine*, growing gradually larger, towards their *Extremity* of a deep red *Colour*, their jagged *Extremities* are strip'd with white inclining to a yellow, these are they for whose sake the *Plant* is cultivated, and of which so valuable a *Medicine* is prepar'd.

In the general *Character* of these *Liliaceous Flowers* I had forgot to take Notice, that they are all *Calicis aut perianthii expertes*, but that three of the *Petals* or *Segments* are situated outmost, and enclose the three inner ones, being green or of an herbaceous *Colour* before *Expansion*, and immediately upon the spreading forth acquire a florid *Colour* the same with the three inner *Petals* or *Segments*, and this is the Reason why three of them are broader or larger. 2. The *Hexapetalous* Flowers have six *Stamina* arising round the *Pistillum*; the *Hexapetaloid* only three, arising from the inner *Surface* of the larger *Segments*, but as the *Button* of the *Stylus* is always three square, so it's here divided into a tripple *Appendix*. Lastly, this *Flower* is of so fine and delicate a *Texture*, that it can endure no kind of Excess of *Weather* after it begins to open, a scorching *Sun* about *Mid-day* deadens it immediately, a clashing rainy *Morning* beats it so down that it cannot recover, a Breeze of *Wind* breaks the *Petals* so as they lose their Shape, so that the only Time of gathering the *Flowers* must be early in the *Morning*, as shall be shewn.

By what has been observ'd by Mr. Miller, and by the regularity we find in the *Propagation* of this Species by the *Root*, there is not much to be said concerning its *Fructification*, its Barrenness that way may

may be ascrib'd to the following Reasons. 1. A viscosity peculiar to the Juice of most of the *Liliaceous Tribe*, whose radical Fibres are usually so large as to admit of such gross Particles as are not soon or easily attenuated as to form the *Seed*. *Onions* and *Leeks* push forth the *flowering Stem* only the second Year, for after repeated *Circulations* of *Sap* in the *annual Surface* of the first Year, the straight hollow *flowering Stem* which supports the Tuft of *Flowers* next Season, has the *Sap* so confin'd to it, that by the direct ascent and descent of it at length it's render'd so tenuous as to compose the *Seed*. 'Tis true, *Garlick* emits the *flowering Stem* the first Year, but the Tuft is then more compos'd of radical *Bulbs* than *Flowers* or *Seeds*, and it's frequent for that Species of it, called *Rocambole*, to support the *childing Bulbs* on the Top of the *Stalk*, which have proper *Stalks* of their own by which they support their small *Flowers*. We see the *Lilium album*, *luteum*, and several other *Lillies*, seldom *fructify* or ripen the *Seed*, which is chiefly owing to the *viscosity* of their *Sap*. 2. The short Time of *Vegetation* in this Plant before the Flower is produc'd, which is not above ten Weeks, so that the *Sap* could scarce be prepar'd to form the *Flower* and perfect the *Seed* in so small a space. 3. The sudden revulsion of the *Sap*, or inverting of its Motion from ascending to form the Flower, to descend to push forth the *Tap* and form new *Bulbs*. 4. The Season for the *Crocus vernus*, if it produce *Seed* at any Time (which is but seldom) is owing to the approaching Season and hot Weather, but no sooner is the Flower of the *Crocus autumnalis* past, the cold Weather comes on enough to kill the tender Embryon if it should begin to swell. Thus much have I thought fit to advance concerning the Description, Vegetation, &c. of this valuable Plant. I come next to consider

The Second Part of this *Dissertation*, which contains the Manner of its Culture, gathering the *Flowers*, preparing and curing the *Saffron*, an Estimate of the Profit, where cultivated to the greatest Perfection, its excellent Virtues and manifold Uses, with a Catalogue of the Shop Preparations into which it enters.

7. Mr. Howard and Mr. Bradley's Accounts of the Culture of *Crocus Vernus*.

In order to perswade a more frequent Culture of *Crocus*, I have drawn up a full and authentick Account of the Method of it, from Mr. Charles Howard, *Transact.* N^o 138. and Mr. Bradley, in his *Gentleman*

tleman and Farmers Monthly Directions, in their own Words, and adding my Thoughts concerning it, that I might render the whole more compleat.

Mr. Howard. *Plant your Saffron Heads in a black rich sandy Land. Between white and red yields the greatest Store of Saffron, a Clay or stiff Ground, be it never so rich, produceth but little Saffron.*

Mr. Bradley. “ A light Loam or middle Soil is such as will do
“ best for Saffron; but I have seen it grow very well in common
“ heathy Ground, which is such as is sandy, and mix'd with small
“ Roots. The very stiff Ground is not proper for it, unless it can
“ be made tender by Coal Ashes, sharp Sand, light fresh Mould,
“ such as will open its Parts.

Mr. Howard. *Plant the Ground in the Beginning of April, and lay it very smooth and level.*

Mr. Bradley. “ Now begin to prepare your Ground for Saffron,
“ by plowing it shallow, for it must have another deeper plowing
“ the next Month.

Mr. Howard. *About three Weeks or a Month after, plow it again, spread upon it about twenty Loads of rotten Dung, and plow it in.*

Mr. Bradley. “ Dung is of bad Consequence to the Roots which
“ are *bulbous*, by breeding a Canker in them, and though the only
“ Manure used by our Farmers for Saffron Ground, yet there is no
“ other Reason for it, save, that it has been a Custom to lay as
“ much Dung upon an Acre as amounts to 10 or 12 l. Value, and
“ in some Places a great deal more; but my Experience teaches me,
“ that a fresh Earth, a little light, if it has but five or six Inches
“ Surface or Staple, with a tollerable Bottom, will do much better
“ than all the forc'd Earth by Dungs.

Mr. Howard. *At Midsummer plow it again, and plant the Saffron Heads in Rows, every way three Inches distant one from another, and three Inches deep.*

Mr. Bradley. “ When your Ground is well ploughed and levelled,
“ make your first Line for Saffron with an Hough, whose Blade is
“ four Inches wide, so that the Furrow which is made by drawing
“ it along will be five Inches wide, and about the same depth; plant
“ your Heads at the Bottom, about four or five Inches distant from
“ each other, draw the next Furrow in the like Manner, close by the
“ Side of the first; so that the Bottom where the Roots are planted
“ may be about five Inches from the Roots in the Line of the first
“ Furrow. By the opening of the second Furrow, the Roots of the
“ first will be covered with Earth; plant the Heads in the second
“ Furrow as in the first, and make the third Furrow to be planted
“ like

“ like the others : Continue thus to make new Furrows, and plant-
 “ ing them until there be a Bed of three or four Foot wide, leave a
 “ narrow Path of about fourteen Inches or a Foot and half, accord-
 “ ing to some, plant the second Bed as the first, leave another Alley
 “ or Path, continue this till the whole Piece of Ground you design
 “ is planted, and then go lightly over each Bed with a Rake. In-
 “ close this Ground very well, to keep the Ground from being hard,
 “ and by the trampling of the Ground by Cattle, and from Hares who
 “ will greatly annoy the tender Grass and Flowers when they first
 “ appear, which must not be suffer'd, for the cropping of the Leaves
 “ only while they are growing, until they decay of themselves, will
 “ so weaken the Roots that they will not blow at all.

Mr. Howard. *The most expedite Way of Planting, is to make a Trench the whole Length of the Field, three Inches deep, with a Spit Shovel, which is to be made of a thin streight Iron, ten Inches long, and five Inches broad, with a Socket in the Side for a Saffron Handle ; lay the Heads in the Trench, and with the Shovel Spit three Inches of Earth on the Top of them, by this Means the Heads will be three Inches every way distant from each other. Only Paths are to be left at two or three Yards asunder, which serve every Year to bay the Weeds to rot, that are weeded or pared off the Ground, then the Heads begin to shoot or spear within the Ground, which is usually a Fortnight before Michaelmas ; hoe or pare the Ground all over very thin, and rake lightly all the Weeds and Grass very clean. In May the Saffron Grass will be quite withered, after which the Weeds and Grass the Ground produces may be cut and mow'd off from Time to Time to feed Cattle till about Michaelmas, at which Time the Heads will begin to spear within the Ground ; hoe, pare, and rake the Ground clean as before, for a second Crop. The like Directions are to be observed next Year for a third Crop. The Midsummer following dig up all the Saffron Heads, and plant them again in new Ground wherein no Saffron has been planted at least for seven Years.*

Mr. Bradley. “ For the Month of *August* weed your Saffron
 “ Ground, for the Saffron will receive Injury if disturb'd in *Septem-*
 “ *ber*, when it will be in full Blossom.

Their Accounts of the Management of Saffron.

Mr. Howard. *The Flowers are to be gathered as soon as they come up, before they be full blown, whether wet or dry.*

Mr. Bradley. “ *September* ; this Month is the *Saffron Harvest*, and
 “ Care must be taken to provide Hands according as you have Quan-
 “ tity, for it must be gathered soon in the Morning, or else the
 “ *Saffron*

“ *Saffron* will shrink into the Ground. Women and Children are for
 “ the most part chiefly employ’d, for they pull all the *Flowers* they
 “ see *blown*, and carry them home in a Basket ; pick out the *Saffron*
 “ in Sunshine, if there is any, to dry a little and prepare it for the
 “ Kiln. Very wet Weather, when the *Saffron* is in *bloom*, bears down
 “ the Flowers, bruises and spoils the *Saffron*, which is the three *Fila-*
 “ *ments* of the Style of the *Flower* of a *Flame* or Orange Colour, and
 “ when this happens, the *Saffron* will be small and weak.

Mr. Howard. *The Kiln consists of an Oaken Frame, lathed on every*
Side, twelve Inches square at the bottom, two Foot square at the top, and
two Foot high, upon which is nailed a Hair Cloth strain’d hard by Wedges
drove into the Sides, a square Board, and about a quarter of a hundred
Weight to press it down.

Mr. Bradley. “ The Kiln is about a Foot square at the bottom,
 “ two Foot square at the top, two Foot high, made of Oak fram’d
 “ together, and cover’d with Laths on the outside, as well as lined
 “ with them.

Mr. Howard. *The insides of the Kiln are covered all over with the*
strongest Potters Clay, very well work’d with a little Sand, a little above
two Inches thick.

Mr. Bradley. “ Upon these Laths within side is spread a strong
 “ Mortar two Inches thick, and the outside is covered with Lime
 “ and Hair, but the bottom with strong Mortar, to serve as an Hearth
 “ to lay the Fire on, leaving an Hole on one Side, to put in Char-
 “ coal Fire, and to give Air. Upon the Top of the Kiln must be
 “ strain’d an Hair Cloth, as tight as possible, and nailed very fast,
 “ because when we put our *Saffron* between the Papers, we must
 “ press a Weight of 25 or 30 Pound in the drying of it.

Mr. Howard. *Pick out the Chives from the Shells or Flowers, and*
sprinkle them two or three Fingers thick, very equally on a double Saffron
Paper; and cover it with two or more Saffron Papers, a Piece of wool-
len Cloth or thick Bayes, and a Cushion of Canvas or Barley Straw, where-
on lay the Kiln Board.

Mr. Bradley. “ You must dry it in white Paper, and in many
 “ Places they lay the Paper under and over six or seven Sheets thick,
 “ especially on the top, on purpose to get the Tincture of *Saffron*,
 “ but this may be guarded against, and likewise they will put the
 “ outside Paper to fresh *Saffron*, on purpose to make them fully par-
 “ take of the Tincture ; but this weakens the Strength of the *Saffron*,
 “ and the Paper will sell well, which are the Dyer’s Perquisite.

Mr. Howard. *Put into the Kiln thoroughly kindled Charcoal, over Coal*
or the like, keeping it so hot as you can scarcely endure your Finger betwixt
the

the Paper and the Hair Cloth. After an Hour or more turn the Edges of the Cake with a Knife, and loosen it from the Paper if it stick fast, wet the outside of the Paper with a Feather dipt in Beer, and then dry the Papers. Turn the Cake, that both may be of a Colour. If it stick again to the Paper, loosen it, and then dry it with a very gentle Heat, with the addition of a Quarter of a Hundred Weight laid upon the Kiln Board.

Mr. Bradley. " Keep the Fire as constant and gentle as possible, " and as soon as it begins to smell pretty strong, turn the Papers, " and set on the Weight again, till the other Side of the Saffron is " well dry'd.

Mr. Howard. The Saffron Cake being sufficiently dry'd, is fit for Use, and will last a good many Years, being wrapt up and kept close. The best Saffron is that which consists of the thickest and shortest Chives, of an high red and shining Colour, both without and within all alike. Saffron is often burnt and spotted, full of Knots, and mixed with the yellow Threads within the Shells.

Remarks on the Management of Saffron.

I thought fit to insert both these Accounts in their Turns in the Gentlemens own Words, that what is omitted in the one may be supply'd by the other, and to give suitable Remarks, that I may render the Manner of cultivating and managing Saffron as full and compleat as in me lies.

They agree, that a rich, black, sandy Mould, or in a mixed, soft, sandy Land, betwixt white and red, but that a stiff Clay is no ways proper; but they differ in the Manner of preparing this Soil, and rendering it fit for Saffron. Mr. Howard prescribes a good Quantity of rotten Dung to be laid upon it after the first Plowing or Tillage. Mr. Bradley is against any such Thing, and says, its only a long received Custom which has induced those about *Saffron Walden* to be at such Charge for Dung, when the Heads being bulbous, Roots would be better without. I confess, most bulbous Roots do not require much Dung, as Tulips, &c. which on account of preserving their Variegations into Colours and Stripes, require particular Composts of Earth and Loams to keep them up to their Kinds, but these are the *Bulbose proprie dictæ* of the tunicated and squamous Kind, whose Juice is already so fat and viscid that a farther Supply of what will fatten them more, will do much to rot them; and yet there are of those of an hot Taste and subtile Particles, as Onions, &c. that encrease mainly in one Season, by mixing of fat and rotten Dung
thrown

thrown upon the Ground where they are to be sown; they who bring the largest Onions to the Market have the Experience of this. But *Crocus* is none of these Bulbs, it has a *carnous* and *tuberous Root*, receiving Nourishment from the Earth by the Tap-Root and Fibres of the *fessile Part*, and whatever Mould is light and porous, easily yielding to the Force and Vigour of the Fibres penetrating and striking deeper into its open delicate fine Substance, without any stiffness, too much compactness, or roughness, to stop their Progress. So that these same Fibres, when the shooting Time begins, may more abundantly receive the nutritive Particles into the Pores of their Extremities; I say, such a Mould cannot be injurious, but rather assisting to the Growth and Vegetation of *Saffron*, and such I take the Quality of the rotten Dung mention'd by Mr. *Howard* to be.

It never can be the worse for the *Soil* when it is so mix'd, that the Heat and *Fermentation* in the *Dung* only destroy'd the *oleagenous*, *sulphureous* and *inflammable Part*, the general Cause of *Corruption*, but it rather heightned the Virtue of the *saline Parts*, extricated them the more, and render'd them capable of entering the Pores of the *Plant*. We know that Horse-dung is the most capable of Heat and Fermentation, being mixed with the Litter and Hay, partaking both of the *volatile Salts* of *Animal* and *Essential Salts* of *Plants*, such a Mixture of *Salts* is preferable to any for promoting *Vegetation*. Their *Virtue* is no ways destroy'd by the *Fermentation*. There is no such *Ebullition* or *Effervescence* here, as happens upon the Mixture of *Acidum* and *Alkali*, as *Sal Tartari* and *Ol. Vitrioli*, when upon destroying of the *Spicula* of one another, a *Coagulum* and *tertium quid* results. The rotten *Dung*, when mix'd with another proper *Soil*, make up a fine soft *vegetative Mould*, having its own *Salts* more extricated, penetrating and subtiliz'd, opening the *Pores*, extricating and attenuating the more stiff and rigid *Particles* of the coarse stiff *Mould* with which it's mix'd, and rendering it much more conformable for the design'd Ends and Purposes.

I'm of Opinion, five Inches distance in the Heads is preferable to three, because the Charge of them will be less, and there will be more Room for propagating the Bulbs, and the Plants and Flowers will be the stronger and larger.

But I prefer Mr. *Howard's Spit Shovel* to Mr. *Bradley's Hoe* or *Hough*, as in trenching of the Ground, the Length of the Shovel is highly convenient to make the Furrow deep or shallow as you please.

Mr. *Howard* directs the first ploughing of the *Saffron Ground* to be in the Month of *April*, Mr. *Bradley* delays it till *May*. In the Preface to his Directions, he mentions, *fallowing*, *twy* and *try fallowing*

in the Space of one Year, which seems very requisite in this Case, for Meadow or Pasture Ground being chiefly employ'd for *Saffron*. That *untry'd Earth*, so much recommended by Mr. *Lawrence* and Mr. *Bradley's* Followers, being naturally stiff and hard, cannot be render'd too soft and kindly, nor too frequently turn'd over before the Heads are planted, for thereby Roots of the Weeds, Grass, &c. formerly on the Surface of the Ground, is the more readily cut and rotted. I could therefore advise, the first ploughing to be in *August* or *September* in the preceding Year, the next in *April*, and the third just preceding the planting of the Heads.

Remarks on the Management of Saffron.

Mr. *Bradley's* Caution about placing too many Papers above and below the *Cake* is worthy of Observation; for as the Paper is most capable to imbibe the *Tincture*, the *Saffron* is thereby the more weakned, so that it's fit there be no more Papers than to make the *Cake* smooth, or to avoid its being made too rough by the pressure against the Hair Cloth.

The moistening of the Paper, loosening and turning of the *Cake* in due Time, the slow gentle Fire, the frequent removing of the Board to take Care it be not burnt, the coarse Cloth or Bayes, Straw Bag, &c. to keep the Weight at a due Distance to preserve the Fumes from getting out, and to make an equal pressure, are all necessary Precautions. Nor is Mr. *Howard's* Marks of the *Saffron*, being all of an equal Colour, that the Spots are signs of its being burnt, that the Knots are because the *Chives* were not equally spread forth upon the Paper, the white is the result of the *Stamina* and *Apices* being pull'd along with the *tripartite Stylus*, unworthy of Observation. Mr. *Bradley* justly observes, that the *Stylus* soon decays, that wet Weather in the Season makes weak *Saffron*, and if Care should be taken to dry the *Chives* moderately before the Papers be put into the Kiln, for I am perswaded, if the *Chives* and Papers be moderately dry when Fire is put into the Furnace, that's the ready way not to burn the *Saffron*.

I conclude these Rules and Directions concerning the Culture of this *noted Plant*, with two Advices I lately received; the first is the third and last Part of Mr. *Miller's* first Letter.

I now come to give you some Account of the Culture of this Plant; but as I have had no opportunity of seeing its Management in the open Fields at Saffron Walden: What I shall inform you of is from the Experience I have

have had in Culture in small Beds in Gardens. It loves a free open Air, to be expos'd to the Sun, and will by no means thrive under the Smoke of London; I have several times planted it in Southwark, where I lived, and had a few Flowers the first Year, but it has dwindled quite away in a Year's Time, notwithstanding my Garden was pretty much expos'd to the Air and Sun, nor will they do well under the Drop of Trees, as I have several Times experienc'd. The Soil they seem to delight in is neither too stiff a Clay, nor too light a Sand, but a sort of Chalky Soil mix'd with a Loam, and not too wet nor too deep. This Soil, if poor, is commonly dung'd with Dung if it is well consum'd, and laid at such a Depth as not to touch the Bulb, but that the Fibres may just reach it. When the Ground is thus prepar'd, we commonly lay it out in Beds about four Foot over, and between each Bed a Path of about two Foot; in these Beds we plant our Roots five Inches asunder each way, and three Inches deep; and if the Soil is poor, it will be a very good Way next Summer when the Green is quite gone, to lay a small Cover of Tanner's Bark or Dung that is well consum'd, all over the Bed, this will enrich the Ground, and prevent the growth of Weeds. The best way of planting the Heads is from the Beginning of June till August, but the sooner the better, if Regard is to be had to the encrease of the Roots, for though the late planted will flower and grow strong, yet they will not give half such Encrease as the early planted, nor will the young Roots be so strong. The Roots thus planted are suffered to remain in the same Place three Years without transplanting, during which, the Crop of Saffron every Year mends; but if let remain much longer, the encrease of the young Roots will be so great as to deprive each other of Nourishment. I am,

Your humble Servant,

PHILIP MILLER.

There need no other Remarks on this last Part of so curious a Letter, than first, it confirms what I advanced, that the properest Time of Planting is the Beginning of June to avoid the Inconveniences he has nam'd; since he has given such Directions how to know the two preternatural barren Roots, a careful removing them immediately after the flowering Time is past, would afford more space to the fertile Bulbs to propagate and encrease. This seems the more necessary, because my Friend is of Opinion, if once they begin to degenerate they never recover; so that as the Honey-Bees do with the Drones, they ought to be pull'd out of the Ground at a proper Time, because they deprive the more fertile and laborious of their Nourishment.

The

The last Advice I received on this Subject, is from an ingenious Student of *Physick* at *Cambridge*.

“ I have sent a Cut of the Kiln which I saw at *Fulborn*; it was about
 “ a Yard and a Quarter high, was made of Wood, and thin pieces of
 “ Wood. *a.* Represents the Place where the Charcoal Fire is put in.
 “ *b.* A Hair Cloth which they spread over the Fire, the Saffron is
 “ laid upon a Piece of Paper over the Cloth about two Feet over the
 “ Fire. *c.* Is a Screw only to stretch the Hair Cloth. Some use an
 “ Instrument made of Wire instead of an Hair Cloth, which gives
 “ the Saffron a deeper Colour, I could not learn which was the best,
 “ for some say the Wire, others the Cloth; it seems there are a
 “ great Number of Saffron Kilns to be sold at *London*.

I am, &c.

Adulteration of Saffron.

Mr. *Howard* has given very good Signs to know the good Saffron from bad, and what is well cured or not, but speaks of no Method used to adulterate it, which some say is done by using of the *flourishes* of *Carthamus*, *Atractylis*, and even of *Carduus Benedictus*, which being near to the same yellow or Flame Colour, it's alledg'd may be used instead of the *Stylus* of true *Crocus*, but the weakness of the *Tincture*, unfragancy of the *Smell*, faintness or too great blackness of the *Colour*, are shrewd signs of Suspicion. The Antients used a ponderous Substance call'd *Croco magma*, which yields a yellow Colour, with which they *tinctured* the *adulterated Saffron*; but as that is unknown to the Moderns, it's well such Means of *Sophistication* is lost also. It's worthy of Consideration, that neither *Crocus Vernus* nor *Colchicum* has such a *Stylus*; if they had, such *Impostures* would have been more frequent than they are.

8. *An Estimate of the Charge and Profit in Cultivating and Managing of Saffron, according to Mr. Howard.*

C H A R G E.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
To thrice plowing an Acre of Saffron Ground —————	1	0	0
To 20 Load of rotten Dung and Carriage, at 2 s. ℥ Load	2	0	0
To 16 Quarter of Saffron Heads, at 10 s. ℥ Quarter ———	8	0	0
To planting the Heads —————	4	0	0
To gathering and picking of the Flowers, at 1 s. ℥ Pound, } inde for 12 Pound. —————	0	12	0
To Fire and Care in drying the Saffron, at 6 d. ℥ Pound	0	6	0
	<hr/>	<hr/>	<hr/>
	15	18	0

P R O F I T.

Receiv'd by 36 Pound of Saffron, being the Product of } three Years Saffron, at 12 Pound per Annum, and } 40 s. ℥ Pound —————	72	0	0
To Profit of Grafs for three Years, at 15 s. ℥ Annum ———	2	5	0
	<hr/>	<hr/>	<hr/>
	74	5	0
To 48 Quarter of Saffron Heads, at 10 s. ℥ Quarter ———	24	0	0
	<hr/>	<hr/>	<hr/>
	98	5	0
Ballance of Charge —————	15	18	0
Three Years Rent of an Acre of Ground, at 40 s. ℥ Acre	6	0	0
	<hr/>	<hr/>	<hr/>
Summa of Charge for three Years —————	21	18	0
Ballance of Profit —————	76	7	0
	<hr/>	<hr/>	<hr/>
Which ℥ Annum amounts to —————	25	9	0

Remarks upon Mr. Howard's Calculation.

I have added the Ground Rent, and stated it at 40 s. ℥ Acre, (tho' I doubt not such poor uncultivated Ground may be had for 15 or 20 s. ℥ Acre) that I may neither seem to heighten the Profit nor lessen the Charge. It's my Opinion, digging with the Spade will be more proper in this Case than ploughing, for thereby all the Weeds will
X x x be

be more carefully remov'd, and the Lumps of hard stiff Earth more conveniently broke, and then the Rake will soon smooth and clean the Ground; but be that as it will, 20 s. for thrice ploughing is good enough Price. I believe it may be cheaper if done with the Spade; either the Loads of Dung must be small, or twenty Loads is a great Quantity for an Acre, and 2 s. for each Load and Carriage is no small Price, but the Quantity of Ground must be large, or the Dung must be very dear to amount to 15 or 20 l. value, which Mr. Bradley says, some People throw unnecessarily on *Saffron* Ground. My *Cambridge* Correspondent only proposes fourteen Quarters of *Heads* to each Acre, but Mr. Howard states sixteen Quarters, and both may be just, when Mr. Howard only allows three Inches Distance betwixt the *Heads* in planting, and most others propose five, which will more than lessen the *Heads* by two Quarters.

When all the above Charge, together with the Pains of Gathering, Picking, Care, and Fire, which is valued at 1 s. 6 d. per Pound, the whole first Year's Charge only amounts to

15 18 0

After which, there is no more additional Charge than the Ground Rent for three Years; for the dressing and cleaning of the Ground, Mr. Howard says, the *Saffron* Grass, valued at 15 s. an Acre per Annum, will countervail that

6 0 0

Thus the whole Charge for three Years, stated at the full Value, only amounts to

21 18 0

The common Computation of the Product is 12 Pound of *Saffron*, which is worth, *communibus annis*, 40 s. per Pound; for as I have known it sold lately at 3 l. 10 s. and 4 l. per Pound, so it is seldom cheaper than 30 s. and its probable the Product will amount to 15 Pounds of *Saffron*, some more favourable Years, so that 40 s. being the middle Price *inde* of Profit for three Years

72 0 0

The general Computation is, that one Quarter of *Heads* when planted, will amount to three Quarters when taken up at the End of three Years, *inde* for 48 Quarters at 10 s. per Quarter

24 0 0

Total 96 0 0

Deduct 21 18 0

74 2 0

The yearly Profit then of an Acre of *Saffron* Ground is

32 0 0

Deduct of yearly Charge 7 6 0

The next Profit is 24 14 0

For the Charge of *Ditching*, *Fencing*, and *Enclosing* of the *Saffron Ground*, also for the *Kiln*, and other proper Instruments, that will be soon countervail'd by the *Improvement* of the *Ground*, which being so well manur'd, and so painfully look'd after when employ'd for *Saffron*, I'm convinc'd it will be double the Value for any other Crop of whatever Substance may be committed to it. Mr. *Howard* seems to insinuate, the same Ground will not be fit for *Saffron* again till after seven Years; but I am of Opinion, much of that may depend upon the Nature of the Soil, for some Ground will be so rich and fat that the Farmers cannot do enough to impoverish it, and other Ground so lean and barren, that after what possibly can be done it will not produce the same Grain two Years an end, but the Seed must be changed every Year, so that no certain Rule can be given how long it shall be before *Saffron* is planted in that same Ground again, or whether it will be proper to take up the *Roots*, prepare, refresh, and plant them in the same Ground; all that must depend upon the Experience of the *Saffron Gardiners*, and others vers'd in the *Culture* of that Plant.

Antiquity, and Places of Culture.

As *Saffron* has been of great *Antiquity*, and as it was early brought into, so it has all along been the most valuable Simple in, *Materia Medica*. Mr. *Ray*, and most other *Botanick Authors*, look upon it as uncertain where the Plant is *Indigenous*. *Matthioli* says, it's the same with the *Coryceum* of the *Antients*, and that *Galen* and *Dioscorides* inform us, it first came *ex Montibus Olympæ*. Mr. *Bradley*, from what Authority I know not, says, it grows naturally wild in *China*. *Sicily* is said to be the Place where it was first cultivated to the greatest Perfection; from thence it was transported to the Continent of *Italy*. *Matthioli* says, the best of it grows at *Vienna*, the Imperial Seat of *Austria* of *Germany*. *Ruellius*, according to *Morison*, says, the best of it in *France* is in *Agro Agensi* & *Narbonensi*. *Pomet* says, the best in *France* is cultivated at *Boistue* in *Gratinois* in the Province of *Guienne*, whence, he says, it's exported to *Holland* and *England*, but they may save their Trouble as to the latter. For *English Saffron*, past all Controversy, has the Preference to any cultivated in any other Part of *Europe*, or perhaps in the *Universe*, and instead of being serv'd by others, they can serve all their Neighbours where Commerce leads them, either at Home or Abroad. It's cultivated to a good Advantage in *Hampshire*, *Herefordshire*, and the Place which has always been the most fam'd for it is *Saffron Walden*. Mr. *Bradley*

ley by Tradition informs us, it was first imported and planted there by Sir *Walter Rawleigh* from *Spain*, but it may probably have been of a more antient Date there, because of its giving the Name to the Place, and most Towns had their proper Names, as we may suppose, long before Sir *Walter Rawleigh's* Time; whether the antient Inhabitants are remov'd, or they think the Ground about *Fulborn* near *Cambridge*, is the most proper, I know not, but I am inform'd, it is now more frequently cultivated there than at the former Place.

Virtues and Uses.

It's reported of King *James* the First of *Great Britain*, that he admir'd how the *esculent* Part of an *Artich oak* came to be discover'd. I may, with the same Reason, wonder how so small a Part as this tripartite *Stylus* of a *Flower*, of which there is but one belonging to each *Plant*, should come to be so early discover'd, and of all Ages so celebrated for its *Virtues*, especially when this so useful a Part has scarce been distinguish'd by *Botanists* themselves till of late Years, and yet now it is known almost to every simple Woman, and almost suckling Child, where they use to cultivate and manage it. Such a Discovery, whoever was the Inventor, has for many Years been of the greatest Use in *Physick*. It consists of the most *fragrant* and *tenuous*, *subtile* and *communicative* *Particles* of any Simple in *Materia Medica*; for as *Vegetables* and their Productions make up its greatest Part, so *Saffron* among the *Vegetables* is of the most *universal* Use and most *potent* *Virtues*. Its first *cephalick*, *nervine*, *anti-epileptick* and *paralytick*, *Henricus Regius*, and most other *practical* *Authors*, in former Times used to distinguish betwixt *Cephalagia*, a *Causa Calida*, and a *Causa frigida*; the first is attended with an intense *acute* and *vehement* Pains; *Opiats*, as *Anodynes*, are *prescrib'd* as *Remedies*. If *Saffron* is added, the stupifying *Quality* is corrected, and the *Medicine* rendered more effectual. In the second, the *Pain* is *heavy*, the *Sensation* *dull*, and the *Senses* *stupify'd*; to remove this Evil, no *Medicine* can be of greater Use, with other *Volatiles*, than Preparations of *Crocus*; it *abates* their *vehemence*, and by calmer Means *reduces* the *Discrasia*, and returns the *Patient* to a more *acute* *Sensation*. In the *Paralysis* it's a powerful *Remedy*, both internally given and externally apply'd. *Saffron* is a principal Ingredient in most of *Anti-epileptick* Preparations.

2. In Diseases of the *Breast*, it attenuates the *gross* and *viscid* *Humours* lodg'd in the *Bronchie*. In a *Dyspnea* from a *nervine* Defect, it comforts and restores their *Tone*, and makes them exert themselves so as to act

act more vigorously on the *Muscles* for *Respiration*, and recovers the *Patient* to their wonted *Orthopnea* or facility in *Breathing*. 4. For the *Stomach*, *Intestines*, and other *Viscera*, it attenuates the gross and viscid *Humours* in the *Prime via*, restores their *Tonus Fibrarum*, by which the peristaltick *Motion* is helped, reserates the *Obstructions* in the *Viscera*, opens the *Pores*, discusses the *Flatus*, and mitigates the tormina ventris. It's the most potent *Uterine* we have, for in the *menes nimii* it corrects the *Astringents* usually prescrib'd in that *Case*, it curbs the *Lochia nimia* when prescrib'd with *Opiats* and other *Anodyns*. It's a most potent *partum provocans* given in *Powder*, or bruis'd and drank in a *White Wine Posset*. It's well known, that the *Spiritus*, *Tinctura*, *Syrupus*, *Pulv. Croci*, are of universal Use in the *menstruorum obstructio*. Some give the *Extract* in *Pills*, but I suspect the *Virtue* is much abated by such a Preparation.

A Catalogue of the several Medicinal Uses of Saffron, and Shop Preparations in which it enters.

Aq. Angel. mag. comp.
Sp. Lavendulæ.
 Croci.
Tinct. Croci.
Elixir proprietatis. D.
 Helmontii.
Laud. Liquid. Sydenham.
 Tartarifat.
 —— *Rhabarb.*
Vinum Chalybeatum.
Syr. Croci.
 —— *de pomis purgans.*
Pulv. Diacinnamomi.
 —— *Species Hieræ Picræ.*
 —— *lætificans Galeni.*
Conf. de Santalis.
 —— *Mithridat.*
 —— *Philon. Romanum.*
Theriaca Androm.
 —— *Archigenis.*
Theriaca Londinens.
 —— *Raleighana.*

Elect. Amar.
 Hiera Diacolycinth.
Pil. Aloephangin.
 —— *de Ammoniac magistral.*
Pil. de Cynogloss.
 Fœtidæ.
Gutta Gamandra.
Ruffi f. Communes
Stomachicæ cum gummi
 e Styrace.
Laud. opiat.
Trochisci de Carabe.
Cypheos ad Mithridatium.
Hedrychroi ad Theriacam.
De Terra. Lemnia.
Ol. de Castor.
 Hyperici.
Ung. Aureum.
 Emolliens.
Emp. Diachylon comp.
 Oxycroceum.

Cruciata, vide *Aparine*.

Cucumis hortensis & *sylvestris*, vide *Citrullus*.

Cucurbita, vide *Citrullus*.

Cuminum, vide *Foeniculum*.

II. *Cupressus*.

Cupressus Ramis expansis mas, C. B. 488. *Cupressus*, J. B. I. 9. 282. Tournef. Inst. 587. Raii Hist. 1406. The Cypress Tree.

The T R I B E.

It's one of the *Ever-green Trees*, with the *Katkins* or *Juli*, separated from a squamous Fruit.

The Description.

It's a tall *Tree*, with a streight gros *Trunk* far spread forth, a greyish *Bark*, and solid *Wood*. Its numerous *Branches* are cloath'd with thick set, small, narrow, short, dark, and ever-green *Leaves*, like those of *Savine* or *Cedar*. Its little short *Juli* or *Katkins* consisting of several small *scaly Leaves*, and numerous *Apices*, shedding abundance of the *Farina fecundans*, are upon distinct Parts of the *Branches* from the *Embryon*, which becomes a big orbicular *Fruit*, consisting of several thick, hard, rhomboid or four square *Squame*, like the Heads of *Nails*, enclosing several black, hard, cornered *Seeds*. It's cultivated as an Ornament or Ever-green in Gardens, of which, by keeping the *Branches* upright with small *Cords*, they usually form various *Pyramids*.

Virtues and Uses.

The *Nuces Cupressi* are chiefly used in the Shops. They are potent *Astringents*, and are given inwardly in *Decoctions* and *Powders* for *Diarrhea's*, *Dysenteries*, *Hemorrhagies*, spitting of *Blood*, *Mensium fluxus nimius*, along with other *astringent Medicines*; Externally, they are prescrib'd in *Fomentations*, *Lotions* for *Inflammations*, stopping of *Bleedings*, curbing of proud *Flesh*, &c. also in *Ointments*, as *Ung. Astring.* *Empl. ad Herniam*, &c.

III. *Cuscuta*

III. *Cuscuta* & *Epithymum*.

Cuscuta maj. C. B. 219. Tournef. Instit. 652. Raii Hist. 1903. Moris. Hist. 615. *Cuscuta*, J. B. 3. 28. 266. *Cassutha* Tab. Icon. 901. Dodder.

Cuscuta min. Tournef. Instit. Hist. des Plantes 426. *Epithymum* *vee Cuscuta min.* C. B. Moris. Hist. Raii Hist. Dodder of Thyme.

The T R I B E.

These are the first of those called *parasitical Plants*, which being the Product of their proper Seed after springing from the Ground, derive their Nourishment no more from the Earth, but from whatever *Plant* they grasp or can lay hold on.

The Description.

These two only differ from each other *secundum majus & minus*, after they have seiz'd upon the Plant by which they are to be nourish'd, the Root in the Earth decays, and several round Filaments mount and twist themselves round the *Stalks* and Branches of the *Plant*; suppose it to be *Flax*, *Nettles*, &c. these *Filaments* are larger, about the Grossness of an ordinary small Pin, in what is called the *Cuscuta maj.* of a light green without any Leaves. They send forth at certain Distances pointed Protuberences, which, like so many Nails, are as it were dustail'd into the *Bark*, *Wood*, or *herbaceous Part* of the *Plant*, insinuating itself into the most minute Fibres, and imbibing so much of the *nutritive Juice* of its nursing *Plant*, that it starves the other to feed itself. The aggregate *Flowers* making up small *Globes* or *Clusters* are *Monopetalous*, perforated in the Bottom, divided into four or five pointed *Segments*. The *quadrifid* or *quinqusfid* *Calix* sends the *Pointal* through this perforation of the *Flower*, and is surrounded by several yellow *Apices*. The membranous *Capsules* contain several small *Seeds*. It's either *annual* or *perennial*, according to the *Plant* on which it grows, but for the most Part *annual*, for though the tough Strings still continue round the *perennial Surface* of the *Plant*, yet after the *Seed* is ripe it dries up, and the new Strings twisted along with it arise, from fresh *Seeds* from the Ground.

What is called *Epithymum*, consists of very fine dark or brown *Filaments*, variously twisted, and grows upon *Thymus*, some of whose Tops are to be seen amongst it. It's imported from the *Levant*; but the

the common Dodder is a *Plague* to all the *Plants* on which it lays hold, particularly *Flax*. Its fine Seed being mixed with that of the other, and sown, they grow together, and the one becomes most destructive to the other.

Virtues and Uses.

It's presum'd, this may partake of the *Virtues* of the *Plant* on which it grows, though that does not always hold, for *Viscum*, on whatever *Tree* it may grow, is observed still to retain the same *Virtues*, of which hereafter. I look upon this Manner of Propagation to be the same with *engrafting* and *inoculation*, where the *Cyön* or *Bud* partakes of the *Tree* from which it was taken, and though planted upon the *Stock* of another *Kind*, it still remains the same, as in a *Quince* upon a *Pear*, and an *Almond* upon a *Peach Stock*; but for the *purgative Quality* of *Epithymum*, that has scarce been yet demonstrated. I rather believe with *Tournefort*, it may be a good *Stomachick*, not only on Account of the *Thyme* on which it is said to grow, but also because of its *aromatick Taste* and *Smell*, and of the *Parts* of *Thyme* it brings along with it. It enters *Decoctum Epithymi*, whose *purgative Quality* must rather be owing to the *Senna* and *Turpethum*, than to *Epithymum* and *Polypodium*.

IV. *Cyanus*.

1. *Cyanus major, latif. vel Verbasculum Cyanoides*, C. B. 273. Tournef. Instit. 445. maj. Dod. pempt. 251. Raii Hist. 222. *Alpinus radice perpetua*, J. B. 3. 25. 23. Moris. Hist. 3. 134. Great Blue Bottle.

2. *Cyanus segetum flore caeruleo*, C. B. Tournef. Raii Hist. Moris. Hist. Minor vulg. Synops. Stirp. Brit. 3. Common Blue Bottles.

The T R I B E.

These are a Continuation of the *Capitata ex flosculis fistularibus*, or *Floribus flosculosis*, according to *Tournefort*. Their *squamous Capita* or *Heads* are much less, and their *Floscles* larger, with unequal Borders.

The Description,

1. From a perennial large *Root*, dispersing many *Fibres*, there arise *Leaves* an Inch broad, three or four Inches long, and pointed whitish below and green above, in the *Great Blue Bottle*.

The hairy, whitish, streight, not much branch'd *flowering Stem* arises one or two Foot high, supporting proportionally large *blue Flowers*, with fringed, purple, unequal Borders, from a squamous *Head*, to which succeed flat, smooth, shining *Seeds*, lodg'd in a *Pappo* or Down. It's cultivated in Gardens.

2. *Lesser Blue Bottle*. From an annual fibrous *Root*, arises a streight, hairy, whitish, branched *Stalk*, with long, narrow, whitish, alternate *Leaves*. The *Flowers* on the Top of the *Stalk* and *Branches*, from a little *squamous Calix*, consists of one Row of large *Floscles*, with unequal fimbriated Borders, of a *true*, or what they call a *Bottle Blue* Colour, with several *Stamina* in the Center, and oblong blue *Apices*.

This Species grows most frequently in the Corn-Fields, and sometimes varies into a White. In the Gardens, *Bottles* are to be seen of a good Variety of Colours, *incarnate white*, purple with red, blue, purple, white *Apices*, distinct from the Colours of the *Floscles* or *Flourishes*. I have discours'd on this at *Aquilegia*, and shewn, this Variation must proceed from the *Effluvia* from the *Apices* of divers Colours. I have also taken Notice, that *blue* Colours in *Flowers* often vary to those which are still lighter, until they arrive at a pure white; but that all these Colours degenerate to their original *blue*, except the white, which always continues the same. It's observable also, that the *Petals* of the perennials often admit of *Stripes* of other Colours as in *Aquilegia*. The *Flowers* of *Delphinium*, which is annual, has sometimes strip'd *Flowers*, but rarely; but the *Bottles* for the most Part are of an uniform Colour, without any Variation into *Stripes*.

Virtues and Uses.

Neither of these are of Modern Use in *Physick*, though the *Cyanus minor* be recommended in *Saxony*, according to *Camerarius*, for the *Jaundice*, and retention of *Urine*, by drinking a Glass of the Decoction of the *Flowers* with Beer, and that the *distill'd Water* mix'd with the *Juice* of *Crabs*, is good for the bringing forth the *Teeth* in Infants, by washing their Gums with it; he likewise recommends it for an *Erisipelas* in the *Face*. *Tragus* also recommends the Powder or distill'd Water for *Inflammation* in the *Eyes*, by which it seems to consist of tenuous Particles, and to referate Obstructions. The Painters use it for making a blue Colour, thus; they bruise the *Flowers* very well in a wooden Mortar, adding a little *Allom*, they strain the *Juice* through a Linnen Cloth until no more of the *blue* Colour pass. They dry this *tinctured Cloth*, afterward they moisten the Cloth with a Solution of *Gum-Arabick* in Water, and this Liquor becomes a fine

blue Tincture fit for Use. The same Method may be also taken with the Tincture of *Violets*, which also yields a delicate Colour, which they soon conciliate to Water, Wine, or Brandy: Both the *Cyani* enter *Aq. Cord. frig. Saxon.*

Cyclamen, vide *Arthanita*.

Cydonia, vide *Malus*.

Cynoglossum, vide *Consolida*.

V. *Cyperus*.

Cyperus odoratus radice longa sive Cyperus Offic. C. B. 14. *Panicula sparsa*. J. B. 2. 18. 501. Raii Hist. 1299. Tournef. Instit. 529. Moris. Hist. 3. 236. The ordinary sweet *Cyperus*, or *English Galingal*.

The T R I B E.

It's a *Culmiferous Plant*, distinguish'd by its three square Stalk.

The Description.

It has a long, round, jointed, running, black *Root*, about the Bigness of one's Finger; long, narrow, pointed *Leaves*, like those of the common *Arundo*, with a sharp longitudinal Ridge in the Back; a smooth, streight, three square Stalk, two or three Foot high, with several small *Leaves* at the Top, supporting the small *Spikes* of *apetalous Flowers*, to which succeed the small *Seeds*, in loose or more dispers'd *Panicles*. It was observ'd in the Isle of *Purbeck* near *Dorchester*, by Mr. *Newton*.

Virtues and Uses.

Its *Root* consists of tenuious and subtile *Particles*, of a pleasant bitter and aromattick Taste. It is *Aperient*, *Stomachick*, and *Carminative*; provokes *Urine* and the *Menses*, discusses Wind, and is good for the *Cholick*. It enters *Aq. Imperialis*, *Stomachick* and *Digestive Powders*, *Infusions* in *Wine* and *Brandy*, of which a Glass full may be taken in a Morning to help Digestion, and create an *Appetite*.

VI. *Daucus Hortensis & Sylvestris.*

1. *Daucus Sativus* Tournef. Instit. 307. *Pastinaca tenuifolia sativa* Moris. Hist. 3. 305. Umb. 31. C. B. 151. *sativa sive Carota*. J. B. 3. 27. 64. Raii Hist. 469. Garden Carrot.

2. *Daucus vulg.* Clus. Hist. cxcviii. *Pastinaca tenuifolia sativa* Dioscoridis vel *Daucus offic.* C. B. Moris. Hist. Umb. sive *Staphylinus Græc.* J. B. Raii Hist. *Wild Carrot*, or *Birds Nest*.

The T R I B E.

They are Umbelliferous Plants, with small striated Seeds, and what Morison calls *foliis plurifariam divisis*.

The Description.

1. *Garden Carrot* has a long simple carnos esculent *Root*, striking deep in the Ground, large, dark green, deep, finely divided, pinnated *Leaves*, the white Umbells are succeeded by flat, light, rough, striated Seeds. It's cultivated in Gardens.

2. *Wild Carrot* has its *Pinne* not so thick set, its *Root* not so carnos or esculent. The *Umbell* is thick, depress'd or hollow in the middle, especially after the *Flower* is past, like a *Birds Nest*, from whence it has the Name.

Virtues and Uses.

The *Garden Carrot Roots*, sometimes yellow, more Orange, red, strip'd with red and yellow Stripes, is much us'd as a *Pot-Root*. The *Seeds* of the *Wild Carrot* are only us'd in *Physick*, being one of the small *Carminative*, or hot *Seed*: They are aperient, reserate Obstructions, provoke *Urine* and the *Menses*, are often prescrib'd in *medicate* and *hysterical Ingredients*, for Infusions in *Wine* or *Ale*.

VII. *Dens Leonis & Pilosella.*

1. *Dens Leonis latiore folio*. C. B. 126. Tournef. Instit. 468. Hist. des Plantes, 192. *Dens Leonis vulgo* Moris. Hist. 3. 74. Raii Hist. 244. *Hedypnois sive Dens Leonis Fuchsi*, J. B. 2. 24. 1035.

2. *Dens Leonis que Pilosella offic*: Tournef. *Pilosella repens* Raii Hist. maj. repens hirsuta, C. B. 260. *Pilosella Auricula muris*, Tabern. Icon. 136. maj. flore sive vulg. repens, J. B. 2. 24. 1040. monoclonos repens vulg. min. Moris. Hist. 27. *Common Mouse-ear*.

VIII. Hi-

VIII. *Hieracium*.

Hieracium Dentis Leonis folio obtusio maj. C. B. 127. Tournef. Instit. 470. Moris. Hist. 3. 66. *longius radiculatum* Raii Hist. 230. *macrocaulon sive minus primum* Dodonæo J. B. 2. 27. 1031. Long-rooted Hawkweed.

IX. *Lactuca*.

Lactuca Sativa C. B. 122. Tournef. Instit. 473. Moris. Hist. 3. 57. Raii Hist. 220. *vulg. non Capitata*, J. B. 224. 997. Common Lettice.

X. *Sonchus*.

Sonchus levis laciniatus latif. C. B. 124. Tournef. Instit. 474. Hist. des Plantes 232. Moris. Hist. 360. *levis* Raii Hist. 222. *minus lacinosus mitior sive minus spinosus*, J. B. 2. 24. 1014. Sow-Thistle.

XI. *Scorzonera*.

Scorzonera latif. sinuata, C. B. 275. Tournef. Instit. 476. *Hispanica* mas Raii Hist. 248. *Tragopogon Hispan.* *Escorsonera* aut *Scorsonera*, J. B. 2. 24. 1060. Spanish Vipers Grass.

The T R I B E.

All these are called *Pappescentes* & *Lactescentes* by Morison; *flore Natura pleno lactescentes* by Mr. Ray; *flore semiflosculoso* by Tournefort. See the General Characters at *Cichoreum*, Decad. the 5th.

1. *Dandelion* has a perennial fibrous Root, long, smooth, sinuated, tooth'd, or deeply nitch'd Leaves, almost to the mid-rib, spread forth on the Ground, amidst which there arise one or more streight naked hollow Stalks, about three or four Inches high, each supporting a large yellow semiflosculous Flower, contain'd in a striated multifid Empalement, to which succeed so many oblong Seeds as there are Semifloscles, each fix'd to the Thalamus at the one End; and endow'd with a Pappo or Down at the other, by which they are dispers'd by the Wind; for upon ripening, the Perianthium becomes inverted, and the Seeds with their Wings forming a Globe, are blown off as they quit their Hold of the Thalamus. It flowers early in the Spring. The Pedicle is but short at first Appearance of the Flower, and is stretcht forth by Degrees

grees until the Seeds are *ripe*. It grows in Pastures and Way-sides. The whole Plant abounds with a *Milky Juice*.

2. *Mouse-ear* is a low creeping *Plant*, with a small fibrous running *Root*, sending forth several rough, or hairy whitish jointed *Branches*, spreading themselves on the Ground, and sending forth radical *Fibres* from the *Joints*. The round, hairy small *Stalks*, support *semiflosculous Flowers*, not so large as the former, more pale, to which succeed small, oblong, pappous *Seeds*; the alternate *Leaves* on the *Stalk* are about one Inch long, half an Inch broad, and pointed, dark, green above, whitish below, with thick, stiff, long, brown *Hairs*, resembling the Ears of a *Mouse*. It *flowers* all the Summer, and is common in dry Pastures.

VIII. *Hawkweed* has its *Root* running deeper, not so fibrous as that of *Dandelion*; the sinuated *Leaves* blunter, the *Stalk* not hollow, tall and branched, the *Flower* the same, but not so big. The *Down* not so large, and softer. It grows in dry Pastures

IX. *Common Lettice* has oblong, blunt, yellow green *Leaves*; the branched *Stalk* with sharper pointed *Leaves*, bears small, yellow *Flowers* on the Top. The *Calix* scaly; the short whitish *Seeds* are lodg'd in a soft Pappo, or Down.

X. *Sow-Thistle* has a long, thick, whitish *Root*, streight, hollow, angular, channeled *Stalk*, about two or three Foot high. The smooth, bottom *Leaves*, are nitch'd, like those of *Dandelion*, that at the Extremity being largest. The alternate ones on the *Stalk* almost surround it, not being so much nitcht, but more pointed. The *Flowers* in tufts on the Top of the *Stalk*, are paler, less than those of *Dandelion*, the *squamous Calix* more tubulous. The soft, white *Downs*, surround long flattish *Seeds*. It grows very frequent in Corn-Fields, upon Banks, and Way-sides.

XI. *Spanish Vipers Grass*, has a simple, *carnous Root*, about the Bigness of one's Thumb, redish without, and white within. The bottom *Leaves* are several Inches long, smooth and stiff, broad at the Base, and pointed. The smooth, round, branched *Stalk*, with alternate, more narrow grassy pointed *Leaves*, without *Footstalks*, streight about two or three Foot high. The *Flowers* on the Top are yellow, large: *Calix*, *squamous*; the *Seeds* are long and pointed, lodg'd in a soft Pappo, or Down. It's Cultivated chiefly in Kitchen Gardens.

Virtues and Uses.

There is scarce any *Botanick Family*, where the Correspondence betwixt the *Characters* and *Virtues* is so general, as in the Plants of this *Tribe*. All of them have more or less a milky Juice. They are noted inoffensive *Coolers*, allaying the Motion of the *Blood*, prevent too great a Dispendium of *Spirits*, strengthen the Stomach, and excite the Appetite in sultry hot Weather; are chiefly *aperient* and *diuretick*, curbing the *Acrimony* and Heat of *Urine*. On which account *Dandelion* is called *Piss-a-Bed*. They are chiefly Pot-Herbs, and seldom us'd in *Physick*. *Dandelion* is sometimes blanch'd, and eat as a *Sallad* in the Spring. *Hawkweed* may serve for the same Uses, but the *Leaves* are not so tender; the Use of all the Kind of *Lettices* in *Sal-lads* is well known. The tender Shoots of *Sow-Thistle* may serve for the same Purposes. As *Mouse-ear* loves a rough, gravelly Soil, so its Particles are more terrene and rigid. Nor is its milky Juice in such abundance. It's therefore esteem'd *astringent*, having this cooling Quality more intense. It's look'd upon as a *Vulnerary*, and may be an Ingredient in *astringent Decoctions*, for *Looseness*, *Vulnerary Potions*, *Lotions* to curb the proud *Flesh* in *Wounds* and *Ulcers*. It gives the Name to the *Syr. de Pilosella*, the most potent *astringent Syrup* in the *Old Dispensatory*.

Scorzonera Roots have a very agreeable, sweet Taste, and is much us'd as a Pot-Root in *Holland* and *Flanders*. They keep them dry in some Shops, and they are prescrib'd in *Diuretick* and *pectoral Decoctions*, and *Ptisans* also, for the ordinary Drink in *malignant* and hot *Fevers*. *Lettice-Seeds* are one of the four *Cold Seeds* in the *London Dispensatory*.

XII. *Dictamnus albus sive Fraxinella*.

Dictamnus vulgo sive Fraxinella, C. B. 222. *Fraxinella*, Clus. Hist. 99. Tournef. Instit. 436. *Fraxinella Officinis Dictamnus*, J. B. 3. 32. 434. Raii Hist. 698. Moris. Hist. 3. 456. Bastard Dittany.

The T R I B E.

This is one of Tournefort's *Flores polypetali anomali*, or what other Authors term *Multisiliquæ Corniculatæ*.

The Description.

It has a pretty, large, white, spreading *Root*. The large pinnated *Leaves* are like those of the *Fraxinus*, or Ash-Tree, from whence the Name. The pretty gross, and streight *Stalks*, arise one or two Foot high, with less alternate *Leaves*. The *Flowers* on the Top of the *Stalks* in *Spikes*, are large *Pentapetalous*, of a pale Red, or pure White, arising from a *Monophyllous Calix*, divided into five long, small *Segments*; four of these *Petals* bend upwards, and one downwards, making the Appearance of a *bilabiated Flower*, with eight, nine, or ten long crooked *Stamina* in the middle. The *Fruit* consists of several long *Seed-Vessels*, bended like a Goat's Horn, bursting with an *Elasticity* when ripe, and pouring out several large black *Seeds*. It is cultivated in Gardens.

Virtues and Uses.

The *Roots* called *Rad. Dictam. alb.* in the Shops, are esteem'd *Cephalick*, *Cordial*, and *Uterine*; they are also said to kill the *Worms*. They are prescrib'd in *cephalick*, *antipileptick*, and *hysterical* Infusions in *Wine* or *Ale*. They enter the *Syr. de Melissophyllo*, *de Pilosella*, *Species Confectionis Liberantis*.

XIII. *Digitalis & Gratiola.*

1. *Digitalis*, J. B. 20. 312. Tournef. Instit. 165. Hist. des Plantes 432. Raii Hist. 767. fol. *Aspero*, C. B. 243. Moris. Hist. 2. 475. Fox-Gloves.

2. *Digitalis minima Gratiola dicta* Moris. [Hist. Tournef. *Gratiola Centauroides*, C. B. 279. *Gratiola*, J. B. 3. 30. 435. Raii Hist. 1885. Hedge Hyssop.

The T R I B E.

These are plac'd among the *Monopetale Bicapsulares*, by Dr. Morison; *Diangie polysperma*, by Herman and Boerhave; *Vasculif. flore monopet. irregulari*, by Mr. Ray; and the *flores monopetali Anomali*, by Tournefort, who with Morison, makes *Gratiola* a Species of *Digitalis*. Mr. Ray objects that the one has *folia ex adversa bina*; the other *alterna*, that the *Flowers* of the one are undivided at the Borders, the other striated, and divided into some Segments. Boerhave observes, that the *Flowers* of *Gratiola* are *e foliorum alis*, and *Digitalis* are always *spicatum disposita*. These Circumstances, together with the Difference in their *facies externa*, are enough at least to let them enjoy their former

former Names, however they may be plac'd near to each other on account of their *bicapsular Fruit*. Also because of their Correspondence in the *Virtues*.

The Description.

Fox-glove is a *biennial Plant*, from its long, large *Root*, dispersing many *Fibres*; it sends forth several long, large, somewhat rough pointed *Leaves*; the first Year upon long *Pedicles*, not unlike those of *Consolida maj.* a little hairy, and somewhat dented round the Edges. The streight, unbranch'd, round, *flowering Stem*, with a rough Bark, adorned with less alternate *Leaves*, has its *Flowers* thick set on a *Spike*, and all tending to one Side, from a *monophyllous quinquifid Calix*, divided into long, large *Segments*, are large, *monopetalous*, compress'd with an oval Border, turgid in the Body, contracted at the Bottom, where 'tis perforated like the Mouth of a *Bottle*, in Shape not unlike a *Thimble*, of a reddish Colour, with the under Lip full of white Spots; the four *Stamina* arise from the inner Surface, and the *Pyramidal Embryon*, which penetrates the Bottom of the Flower, sends forth a long *Stylus*, with a round *Button*. The *Embryon* becomes a roundish pointed, or conical *Fruit*, divided into two *Pouches*, and pouring out small *Seeds*, after the *Seeds* are ripe, the whole *Plant* decays. It's frequent in dry Ground, at the Sides of Enclosures, and Garden-Walls made of Earth.

Hedge-Hyssop is a low Plant, with creeping or running *Roots*, from whence proceed several four square *Stalks*, adorn'd with oblong, oval *Leaves*, by Pairs like those of *Hyssop* at each Joint, from whence also proceed the small, tubulous *Flower*, *quadrangular*, and divided into four *Segments* at the Border, of a pale Yellow, to which succeed a small, oblong, or conical *bicapsular Fruit*, full of small *Seeds*. It's cultivated in Gardens.

Virtues and Uses.

I have join'd these here on account of their *Virtues*, as well as their *Notes*, for they are both violent, *Cathartick* and *Emetick*; and although *Gratiola* be reputed a potent *Melanogogum*, also a good *Hydragogue* for the *Faundice*, and *Evacuation* of *serous Humours*, yet it's not to be us'd but with Caution, and good *Correctives*. There are some who also recommend it in *intermittent Fevers*, and the *Gout*; but it's best to have Recourse to safer *Remedies* in such Cases. *Foxglove*, for external Application, is much recommended for the *Gout*, either by applying of the *contus'd Herb* to the affected Part, or making an Ointment of the *Flowers* by *Insolation*, with *Hog's Lard*, and anointing the Part; also

for discussing of *scrophulous Tumors*. It's also an *Emetick*, by infusing of the Leaves in any convenient *Liquor*, and drinking a few Spoonfuls of it, but its Operation is too violent.

XIV. *Dipsacus*.

1. *Dipsacus Sativus*, C. B. 185. Tournef. 466. J. B. 3. 25. 73. Rall Hist. 382. Synopf. Stirp. Brit. 3. 191. Moris. Hist. 3. 158. *Manur'd Teasel*.

2. *Dipsacus Sylv.* apud eosdem, Hist. des Plants, 266. Wild Teasel.

The T R I B E.

The *Garden* and *Wild Teasel*, only differ by the *Squama* of the *Head*, being long, streight, and more pointed. *Authors* differ in its Distribution. *Morison* makes both it and *Eringium*, of the *Capitatae Spinosæ sed non papposæ*. Mr. *Ray* joins it with *Scabiosa*, and says it is one of the *Corymbiferis affines flore Anomalo*. *Tournefort* places it among the *flores flosculosi*. *Boerhaave*, among the *Gymnomonosperma non Squamosæ*.

The Description.

From an annual, fibrous *Root*, it sends forth large, blunt, dark green *Leaves*, lying on the Ground, with several *Protuberances* and *Prickles* on the upper Part. The streight jointed, and prickly, or thorny *Stalk*. The large pointed *Leaves* are so join'd together by Pairs, that they surround the *Stalk*, and form a *Pelvis* or *Basin* betwixt them, which receives and contains the Rain; they are smooth within, and somewhat prickly on the Edges, with a long protuberant Rib, or *Costa media*, prickly on the outside on the Top of the *Stalk*, and each of these few Branches, there are several long, narrow pointed small *Leaves* at the Base, of an oblong, or oval *Head*, consisting of a long Mid-rib, from whence proceed on each Side, small, stiff, short, sharp pointed *Leaves*, serrated at the Edges, serving as a *Vagina* to each of the *Floscles*, from whose Bottom arises the quadrangular *Embryo*, with a long *Stylus*, and a large *Button*. This is surrounded by a tubulous quadrangular, and quadrifid *Floscle*, or *flourish*, with four long *Stamina* and *Apices*, stretcht without the *Floscle*, to which succeed an oblong, square *Seed*: All these are firmly united to the Mid-rib, and compose one *Head*. The manur'd *Teasel* is sown in the *Fields*, for the Use of the *Fullers* or *Cloth-Dressers*, on which Account it's called *Carduus Fullonum*. The *Wild Teasel* is frequent

quent on the Sides of Ditches, and only differs from the other by being more or less prickly, or smooth, which seems to be the Effect of the Culture.

Virtues and Uses.

The Decoction of the *Root* is recommended for *Rents* and *Clifts* in the *Fundament*, and for the *Fistula Ani*; being drank, it is said to be good for a dry inveterate *Cough*. It is also commended for *scrophulous Tumors*.

XV. *Doronicum*.

Doronicum radice Scorpii, C. B. 184. Turnef. Instit. 487. Morif. Hist. 3. 126. Raii Hist. 275. Leopard's-Bane.

The T R I B E.

It's one of the *Flores Radiati* of *Tournef*: *Flore discoide Radiato semine papposo* of Mr. *Ray*; *Gymnomonospermæ discifloræ* by *Boerhave*; *Pappescentes non Lactescentes*, by Dr. *Morrison*. See After Decad. III. p. 120.

The Description.

It has a white, soft, carnous *Root*, somewhat jointed and incurvated like a *Scorpion*; a streight, rough, striated, or crested *Stalk*, about one or two Foot high; small, thick, roundish pointed hairy *Leaves*, green above, and whitish below, with two or three yellow, radiated *Leaves* on the upper Part, with dusky small Seeds, endow'd with a Pappo, or Down. It's cultivated in Gardens.

Virtues and Uses.

It's esteem'd a potent Hyfterick. The *Root* is a frequent Ingredient in Infusions for Wine or Ale, in the *Menstruorum obstructio*, and other hysterical Cases; also for the Palpitation of the Heart, as to its Efficacy, for the biting of *Scorpions*, and poisonous Quality, for which it's called *Wolf*, or *Leopard's-Bane*. These are not much regarded now a-days.

Dracunculus, Vid. *Abrotanum mas.* Decad. I.

XVI. *Dracuntium*.

Dracuntium Polyphyllon, Tournef. Instit. 160. C. B. 195. *maj. vulg.* J. B. 2. 19. 789. Raii Hist. 1201. *Arum Polyphyllon*, Moris. Hist. 3. 448. *Arum Polyphyllum Dracunculus* & *Serpentaria dictum caule maculoso*, Hort. Lugd. Bat. 69. Great Dragons.

XVII. *Arum*.

Arum vulg. C. B. *maculatum* & *non maculatum*, C. B. Tournef. Instit. Hist. des Plants, 316. Moris. Hist. Raii Hist. 1203. Cuckow-pint, or Wake-Robin.

The T R I B E.

This Genus is variously Class'd by Authors. Mr. Ray, in his first Distribution, places it among the *Bulbosis affines*, in his *Methodus Emendata*, it's plac'd among the *Baccifera fructu magis sparso*, though it be *fructu aggregato*; but in the Synops. 3. it's plac'd among the *Baccifera in general*, as it is by Morison, who makes a just Distinction betwixt the *Plantæ Baccifera semper virentes*, as *Laurus Alexandrina*, &c. Decad. 4. and *foliis deciduis* in this Place, and his Followers, *Herman*, *Boerhave*, and all others, who Class by the Fruit. But *Rivini* and his Followers, *Tournefort* and *Knaut*, who Class by the Flower, dispose of them otherwise. *Rivini* and *Knaut* call them *Monopetalous irregular*, and *Tournefort*, *Anomalous Flowers*. I here again observe, that however the *Bacciferous Plants* agree in their Fructification, there is not another *Botanical Tribe* which disagrees so much in their other Characters, viz. *Facies externa*, *Root*, *Flower*, *Modus crescendi*, as this does, as appears in comparing *Bryonia*, *Ruscus*, *Polygonatum*, *Christi-phoriana*, &c. with this *Arum*. So necessary it is in a methodical Distribution, to place the *Characteristick* in one or two particular Parts of the Plant, and then to bring in the distinctive Notes, for the better constituting of each Genus and Species.

Tournefort, who is so ready on other Occasions to make Innovations on Names, *Longo usu recepta*, as has been elsewhere observ'd, continues these in two distinct Genera, though they agree in most of their essential Notes; their white, knobby, carnos, perennial Root, is the same; they have the same acrimonious Taste while green; their Flower and Fruit exactly agree, so that these two differ in nothing but *secundum majus & minus*, which by an universally receiv'd Maxim, *Non variat speciem*. Their Flower is elegantly delineated by *Rivini*,

in the proper Magnitude, thus; 'tis plac'd on the Top of a proportionally gross *Footstalk*, extended into a *protuberant*, or oval, cavous *Petal*, every where surrounding and guarding the *Fructus Rudimentum*; within a little it becomes more contracted, and in its Ascent is expanded into a concave, oblong, erect *Petal*, like a *Sheep* or *Rabbit's* Ear. The Pedicle is lengthned into an *Axis medius* in the Center, guarded by this *Petal*, whose Base is surrounded by several small, subrotund Embryons, each having a small Filament for the *Stylus*; above this is a Row of thick set *Stamina*, with their proper *Apices* dependent, and loaded with the *farina fecundans*, or fill'd with a *limpid Juice*. Above these, is a third Row of *Filaments*, without *Apices*, also distilling this *limpid Juice*. This *Axis* in the Ascent, forms the proportionally, gross *Pistillum*, smaller and solid at the Beginning, but afterwards distended into a cavous *Tube*, cylindrical, and blunt in *Arum*, more conical and pointed in *Dracuntium*. When this upper Attire, as Dr. Grew phrases it, is decay'd, the subjacent *Embryons* swell into so many thick, round, red *Berries*, each containing one or two rough *Seeds*.

The Description.

Dragons, from a proportionally large knobby *Root*, sends forth a streight, gross, tunicated, or coated *Stalk*, compos'd of so many *Laminae*, as there are to be *Footstalks* to support the *Leaves*, and roll'd up like a *Scrole* of Paper, or Parchment, of a grey Colour, spotted with reddish and purple *Streaks*, like the Skin of a *Serpent* or *Dragon*, from whence the Name, about two or three Foot high, divided into two or three gross, green *Footstalks*, each supporting a *digitated Leaf*, whole at the Center, and deep; divided into several smooth, light, green, oblong, pointed *Segments*; the *Flower* in the middle, upon a proper *Footstalk*, is large about a Span, or near half a Foot long; the large expanded *Petal* is green without, and dark Purple within, as is also the large cavous *Pistillum*, about three or four Inches long, broad, or roundish at the Base, tapering, somewhat bended and pointed. The *Embryons* become a large *Cluster*, near to the Bigness of one's *Fist*, of thick set red *Berries*, about the Bigness of a round, or oval *Pea*, each containing one or two rough *Seeds*. It continues green in the Gardens all the Summer, the *Berries* ripen in the Autumn; the *Root* sends forth new Knobs every Year, and every *Knob* has a proper unbranch'd *Stalk*.

Wake Robin has the knobby *Roots* not so large, about the Bigness of a *Walnut*. The *Leaves* arise each upon a proper *Pedicle*, streight from the *Root*, large, broad, smooth, dark Green; in some *Species*, spotted with black, in others white *Spots*, and others plain, Spear pointed.

The

The *flowering Footstalk* in the Center, is two or three Inches high, supporting a long, straight *Petal*, green without, like the former, but whitish within, proportionally less, together with the inner Attire, the *Pistillum*, straight, more cylindrical and blunt. The *Roots* of both have several gross, white *Fibres*, in the sessile Part, like those of the *bulbous Roots*. The *plain-leav'd* is only *indigenous*, and grows almost every where at the Foot of Hedges; in its Prime in *March*, pushes forth the *Flower*, in the latter End of *April*; when the Leaves decay: and in *June*, the *Berries* are ripe.

Virtues and Uses.

Both these have a tart, pricking *Taste* when green, which fades when dry, so that the dried *Roots* are insipid, farinaceous, and fit for internal Use. They are endow'd with viscid *Particles*, fit to obtund acrimonious and sharp *Humors* in Diseases of the *Lungs*, and *Scurvy*. They are also recommended for the *Chlorosis* and *Cachexia* in *Women*, and for strengthening the *Viscera*. They are likewise esteem'd good in *intermittent* and *malignant Fevers*. *Facula Ari* enters *pectoral Powders*, *Pulv. Ari Comp.* is commended for the same *Diseases*; some use the *Facula* like a Starch, to dust the Face over with it, or they dissolve it among Milk, to take off Tan or Morpew. The distill'd Water of *Dracuntium* is very much us'd in these Parts, for Juleps and Cordials in the Small Pox, malignant, scarlet, and purple Fevers.

Dulcamara, vid. Amoris pomum, Decad. I.

XVIII. *Ebulus & Sambucus.*

1. *Ebulus sive Sambucus Herbacea*, J. B. 15. 539. *Sambucus humilis sive Ebulus, fol. laciniato*, C. B. 456. Raii Hist. 611. Tournef. Instit. 606. Synopf. Stirp. Brit. 3. 461. Hist. des Plants, 530. *Ebulus sive Sambucus Herbacea repens*, Hist. Oxon 3. 535. Dwarf Elder.

2. *Sambucus fructu in Umbella nigro*, C. B. vulg. J. B. Raii Hist. Tournef. &c. Common Elder.

The T R I B E.

These are Class'd by most Authors, among the *Bacciferae flore summo fructui insidente*, and among the *Arbores flore Monopetalo cujus calix abit in baccam*, in Tournefort's *Dialect*. This is the only Instance among the *European Plants*, where the Character of the Plants agree, and their Texture disagrees. Rivini neglects *Quadrimebram illam divisionem*,

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sionem, as Mr. Ray calls it, *inter Arbores, Frutices, Suffrutices & Herbas*: The Difference between *Trees, Shrubs, Under-Shrubs, and Herbs*, for which Mr. Ray justly takes him up, chiefly upon this general Head, that the first three are not only Perennial in their Surface, with an hard Substance, but they are also *Gemmipare*; they have a *Gemma, Germen, or Bud* for the succeeding Year, form'd before the *Leaf* of the present Year falls off. Therefore *Malva Arborea*, and other *Woody Plants*, whose Surface, or *flowering Stem* continues alive for two or three Winters, and the *Leaves* on the Top often remain; but as there is no *Gemma* form'd for a succeeding Season, though the Substance of the Stalk and Branches be hard and ligneous, yet they scarce come under the Denomination of *Trees, Shrubs, or Under-Shrubs*. But here the Case is quite different, one Species has all the Accidents of a *Tree*, the other only of an *Herb*, even to the perishing of the *Annual Surface*, and yet no wise separable from being of the same Genus. Though it be a great Misfortune to the *Botanick World*, That the first Part of the *History Oxon.* treating of *Trees and Shrubs*, is *non edenda*, as the Publisher of the third Volume informs us, yet he has thought fit to separate *Ebulus* from *Sambucus*; because, since we are to be depriv'd of the celebrated Dr. Morison's Account of the one among the *Trees*, 'twas very convenient the other should be brought into its proper Place among the *Herbs*. The general Character of both is, that they have *pinnated Leaves, monopetalous, small, white Flowers*, dispos'd into an *Umbel*, to each of which, a succulent *Berry* succeeds.

The Description.

1. *Dwarf-Elder* has a long, white, *carnous, running Root*, not *fibrous*, about the Bigness of one's Finger, emitting streight, cornered, marrowy, jointed Stalks, about two or three Foot high. From whose Joints arise the *Leaves* by Pairs, consisting of three or four Pair of *Pinne*, with an odd one at the Extremity, longer, and more pointed, but of an heavier Smell than the following. The *Flowers* in large *Tufts* or *Umbels*, are little, white, divided into five blunt *Segments*, with so many *Stamina*, supporting so many dark, or Iron-colour'd *Apices*. The *Petals* are perforated in the Center at the *Bottom*, in which the *Embryon* is lodg'd, which afterwards becomes a *Berry*, larger than that of the following, each containing two or three oblong *Seeds*, which when ripe, both *Stalks* and *Leaves* decay. It's frequent on the *Sides of Highways, Rubbish of old Houses, and Church-Yards*.

2. *Common Elder*, from a white, *woody Root*, soon grows up into a *Tree*, of a middle Stature, much branch'd; the Branches are long, streight

straight jointed, woody, after the first Year, and fill'd with a very gross Marrow, which according to the Age lessens, and the surrounding *Wood* becomes thicker, very hard, and solid; so that when the *Tree* grows alone, the straight *Trunk* has a very firm Wood, while the *Branches* seem to be very soft, and full of Marrow. The *pinnated Leaves* are broader and shorter than the former. The *Flowers* in *Umbels* after the same manner, but the *Berries* are less, and more succulent. It is frequent at the Sides of *Hedges* and *Ditches*, and is often us'd as a Fence to *Orchards* and *Gardens*, because of its sudden growing.

Virtues and Uses.

These are esteem'd the most potent *Hydragogues* in the *Vegetable Part* of *Materia Medica*, not so much on account of their *Cathartick*, as of their *alterative Quality*: They consist of *acrimonious* and *pungent Salts*, by which they most powerfully *reserate Obstructions*, and are effectual in such *Distempers* as are caus'd by them; and therefore they prepare, and gently evacuate the *serous Humours* in the *Hydropsy*, *Anasarca*, *Gout*, *Sciatica*, and *Rheumatisms*, by opening the Pores in the *obstructed Glands*, the *Joints*, and other Parts of the *Body*, affected with these and the like *Diseases*, such as *Scurvy*, *Jaundice*, &c. They are *discutient* and *resolutive*, being externally apply'd to the *Joints* in the *Gout*, to *scrophulous*, *hydropical*, and *anasarcous Tumors*. *Dwarf Elder* is the most effectual, which may soon be perceiv'd, by the vehement, heavy Smell. Its *Roots* are us'd in *Decoctions*, *Fomentations*, and *Lotions* externally, as also the green *Leaves*. Some give the *Berries* to a certain Number, for a *Purgative* in *hydropical Cases*, by the Name of *Danewort-Berries*, from a traditional Conceit that this *Plant* sprang up from the *Danish Blood*, which was spilt when they first descended into this Island. They vacuate *dropical Humors*, but that should not be done without Caution and *Correctives*, for their *Acrimony* may be noxious to such weak *Stomachs*. The *Rad. Ebuli*, and *Cort. interior Sambuci*, may be effectually given with other *aperient* and *antidropical Ingredients*, for *Infusions* in *Wine* or *Ale*. The *Syr. Sambucinus*, and *e baccis Ebuli*, may be given in a *Syrup* in the like Cases, where the *Acrimony* is much obtunded by the boiling. They make *Elder Wine*, either by *Fermentation*, or *Elder Brandy*, or *Wine*, by making a *Tincture* with the *Berries*. Also *Elder Vinegar*, or *Aleger*, by infusing the bruised *Berries* in these acid *Liquors*. The tender *Buds* of *Elder* may be eat in a boil'd *Sallad*, to open the *Body* in *hydropical Cases*. The *Fl. Sambuci* are kept dry in the Shops, for *Fomentations*, *medicate Ingredients*, &c.

XIX. *Echium*.

Echium vulg. C. B. 154. Tournef. Instit. 137. Hist. des Plants, 75. J. B. 3. 33. 586. Raii Hist. 488. Synopf. Strip. Brit. 3. 227. Hist. Oxon. 3. 440. *Vipers Bugloss.*

The T R I B E.

This is one of the last *Asperifoliae* we shall meet with in the Catalogue. Rivini has separated it from its *Congeners*, by the dissimilar Parts of its *Flower*, which he calls *Flores irregulares*; and in this he's followed by Dr. Knaut, but how awkwardly, let Rivini's own Words declare. *Cum igitur ratione seminum, & foliorum cum Borragine, &c. Est ratione florum non modo ab his quæ sunt flore regulari sed & pluribus aliis quæ flore irregulari gaudent manifeste discrepat. Echioides ergo dicenda est potius ad cujus differentiam Buglossoides vocari potest quod igitur Fuchsio Echium, Casp. B. Buglossum Sylvestre minus dicitur.* What a Struggle is here, *conjungenda separare*. Since there are two quite different Classes of *Gymnotetraspermæ*, where the *Fruit*, *Habit* of the *Plant* and *Leaf*, are more to be regarded than the *Flower*. It's an open Violence done to a regular, methodical Distribution of Plants, to carry any from his own *Family*, on account of what is not at all material in in this Case: *Mentha*, *Pulegium*, *Thymus*, may as well be disjoin'd from the *Galeatæ* & *Labiatae*, because their *Flowers* are, *oris equalibus*, as *Echium* can from the *Asperifoliae*, because it's *oris inequalibus*; whereas what is most material in these two, besides the roughness and smoothness of the *Leaf*, is, that the one has always *folia alternatim*, and the other *conjugatim per intervalla disposita*, as has been elsewhere observ'd, *Decad. 4.*

The Description.

From a thick, brown, long, not very fibrous, perennial *Root*, the straight, not much branch'd, rough, round *Stalk*, about the Bigness of a *Tobacco-Pipe*, arises about one Foot high, adorned with alternate, rough *Leaves*, without Footstalks, about one Inch and a half broad, and two or three Inches long. The Top of the *Stalk* becomes a long *Spike*, somewhat bended at the Extremity, like a *Viper's Tail*, consisting of larger, several *Flowers* interspers'd with lesser *Leaves*, *monopetalous*, *tubulous*, or *cylindrical* at the Bottom, *Funnel-like*, bended a little like an Horn; it widens in the Ascent, and is enlarg'd into two
Lips

Lips or *Borders*, the upper is erect and *bifid*, the lower divided into three *Segments*, like the *Lip-Flowers*; the five *Stamina* are also bended and *corniculated*. The *Empalement* is large, and divided into five long, small, or narrow *Segments*, the four rough *Seeds* are like a *Viper's-Head*, with others of that *Tribe*. It grows on sandy Banks, at the Foot of Rocks, stony Ground, and rugged highway Sides.

Virtues and Uses.

The Signature seems both to have given the *Name*, and been the Reason of assigning the reputed *Virtues* to this Plant, for because the *Seeds* resemble a *Vipers-Head*, and its Manner of growing a *Viper's-Tail*, *Dioscorides* will have it a most effectual Remedy against the Bite of a *Viper*. It's seldom prescrib'd in the Shops, but by the *Harmony* betwixt the *Characters* and *Virtues*, it would seem to serve for the same Uses as *Borraga* and *Bugloss*.

XX. *Elatine* & *Linaria*.

1. *Elatine* fol. acuminato in basi auriculato flore luteo, C. B. 253. *femina* fol. anguloso, J. B. 3. 29. 372. altera sive *Veronica femina*, Dod pempt. 42. *Linaria segetum nummularia* fol. acuto & villoso fl. luteo, Tournef. Instit. 170. Hist. des Plants, 110. *hirsuto* fol. acuminato basi auriculato, Moris. Hist. 2. 503. *Linaria Elatine dicta* fol. acuminato, Raii Hist. 733. Sharp-pointed *Fluellin*.

2. *Linaria vulg.* fl. luteo, Tournef Moris. Hist. C. B. 212. *Lutea vulg.* J. B. 3. 30. 456. Raii Hist. 752. Synops. Stirp. Brit. 3. Hist. des Plants, 23. *Toad-Flax*.

The T R I B E.

These are variously plac'd, according to the different Methods: *Rivini* and *Tournefort* Class by the *Flower*; and they call them *anomalous*, or *irregular*, *monopetalous* *Flowers*. They are said to be *Flore calcari donato rictum experimente*, by Mr. Ray and others, i. e. *Heel*, or *Spur-Flowers*, with a gaping Mouth. *Morison*, who distinguishes by the Fruit, calls them *Monopetali Bicapsulares*. Mr. Ray and *Boerhave* say they are *Diangæ polysperma*. *Rivini* would have *Elatine* and *Cymbalaria*, sive *Linaria hederæ folio*, separated from *Linaria*, both on account of the *Modus crescendi*, different Figure of the Fruit, and Manner of its opening; but as I am of Opinion they differ but little in the *Virtues*, I continue to keep them together. They have a

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monophyllous

monophyllous Calix, a long, hollow *Spur* behind, are dilated with a gaping *Mouth*, having a *Rictus* before, with two *Lips*, the *upper* erect, and the *lower* triply divided, like the *regular Lip-flowers*. They were unacquainted with the modern *Botanical Notes* and *Characters*, who place *Elatine* with *Veronica*.

The Description.

1. *Fluellin* is a slender, low, creeping *Plant*, with infirm, slender, hairy *Stalks* and *Branches*. The alternate, hairy *Leaves*, upon short *Footstalks*, are hairy, broad and *auriculated* at the *Base*, sharp at the *Point*. The *Flowers* at their *Bosom* upon long *Footstalks*, like those of *Veronica*, are much less than the following, with a yellow, upper, and purplish lower *Lip*, a blunter, *bicapsular Fruit* pouring out small *Seeds*. It grows in *Corn-Fields* in several *Places*, and is to be observ'd after the *Corn* is cut down.

2. *Toad-Flax* has a white, very running fibrous *Root*, streight, round, unbranch'd *Stalk*, thick beset with long, narrow pointed, bluish, green, alternate *Leaves*, with many thick set yellow *Flowers*, possessing the upper Part, in Form of a *Spike*, to which succeed a proportionally, large, *bicapsular Fruit*. It grows frequent in *Way-sides*, barren *Meadows*, and sometimes *Corn-Fields*, and spreads very much by the *Root*.

Virtues and Uses.

Fluellin is but little us'd in *Physick*; its *Juice* is recommended for *Cacoethes*, and *cancrous Ulcers*, and seems to partake of the same *Virtues* with *Toad-Flax*, which is esteem'd a potent *Diuretick* and *Hydropick*, and may be an *Ingredient* in Preparations for that Purpose, with *Dwarf-Elder*; but the internal Use of both, by their too great *Acrimony*, which may be hurtful to the *Stomach*, is much suspected. A *discutient Ointment* may be made of the *Juice* of both with *Hogs-lard*, or *Butter*, for the *hemorrhoidal* and *goutish Pains*, and for discharging of *scrophulous* and *cancrous Tumors*.

Endivia, vid. *Cichoreum*, Decad. 5.

Enula Campana, vid. *Aster*, Decad. 3.

Epithymum, vid. *Cuscuta*.

XXI. *Equisetum*.

Equisetum arvense longioribus setis, C. B. 16. *minus terrestre*, J. B. 3. 36. 719. Raii Hist. 128. Synopf. Stirp. Brit. 380. Tournef. Instit. 532. Boerh. Ind. 106. Corn-Horsetail.

The T R I B E.

This Plant has been variously distributed by Authors. Mr. Ray places it among the *Plantæ semine minutissimo*, and Synopf. 3. makes it *Cappillaribus affinis*. Tournefort and Boerhave more justly place it among the *Plantæ flore apetalæ a fructu remoto*; but whether in *eadem Planta*, or *diversis Plantis*, I have not been able to determine. Had Dr. Charles Preston, as quoted by Mr. Ray, *Meth. Emend.* pag. 20. so well understood the Doctrine of the *Sexes* of Plants, as it has been lately improv'd, his curious Observations might have decided the Question; for what he calls *Semina rotunda alba Musci cujusdam amula e pediculo semiunciali, tenuissimo e foliorum geniculis exeunte sustentata*, I take to be the one *Stamen* and *Apex* fill'd with the *farina fecundans*, which supplies the *Flores apetalæ Masculinæ* in other Plants, by which it may be *flore a fructu remoto in eadem Planta*, though Tournefort will have it to be in *diversis Plantis*, which makes me conjecture it may be more fitly join'd with *Salicornia*, which the Synopf. 3. brings in with *Lupulus* and *Mercurialis*; on which account I may call it *Equisetum Maritimum nudum Ramosum*; for though *Salicornia* be a more suitable Name, yet the Habit of the Plant brings it nearer to *Equisetum* than any, for both are *αφύλλοι*, and *geniculati*; and as the *Stamina* and *Apices* proceed from all the Joints of the Plant, in the one *e quibusdam velut squamis pixidatim geniculatis compositi sub quibus semina occluduntur*, so the same Kind of *Stamina* and *Apices* proceed, and the second are contain'd in the same manner *pixidatim sub squamis* in the *Spike* of the other. Since therefore this is not a *Genuine Kali*, and cannot be properly called *Equisetum*, because of the Resemblance to the Hairs of an Horse-tail, it may well be reckon'd of the same Family, though not of the Name. The Reason of my Remarks in this Place is, because I have examined *Salicornia*, and find it exactly to correspond with Tournefort's Delineation in his *Corollarly*; and since both *Equisetum* and it have *Stamina e geniculis erumpentia*, I think they may go together.

The Description.

It has a very much running and fibrous Root, the naked, *jointed*, and genicular Shoots, arise one or two Span high, with Heads like those of *Asparagus*, from whence the numerous Branches are afterwards push'd forth from the Joints of the middle *Stem*, at certain Intervals. These *Joints* are so dispos'd, that the uppermost, divided into certain equal Points, or Teeth, bending downwards, and covering the lower Articulation, the Joints of Stalk and Branches are dispos'd after the same manner, and form a groffer, beginning taper gradually, resembling an *Horsetail*. The knobby Top of the *Stalk* is compos'd of several *Squamæ*, like a *Fir*, or *Pine Cone*, from whose Intervals proceed the *Stamen* and *Apex*, loaded with the *farina*; the Seeds are lodg'd under the *Squamæ*, as is observ'd. The whole *Plant* is hard and rough to the Touch. It grows in Corn-Fields, and barren Lee-Grounds, where it spreads very much by the running Root.

Virtues and Uses.

It's esteem'd a potent *Astringent*, internally given in *Infusions*, and externally apply'd in *Fomentations* and *Lotions*, for *Hemorages*, and for stopping the Blood in *Sanies Wounds*. It's also commended for *Ulcers* in the *Kidneys*, and *fluor-albus*.

Salicornia, which may be admitted for the *Kali offic.* because of the Difference of the Soil, which often alters the *Virtue* of *Plants* of the same *Characters*, is a succulent Plant, of a saltish Taste, and esteem'd an excellent Pickle. It's substituted for *Samphire*, and passes for that Name in *Holland* in *Lincolnshire*, and is either eat in a *boil'd Sallad* when young and tender, with Butter, like the *Atriplices*, or it is us'd as the most common Pickle in the Country when it is older; but then the *Stalk and Branches*, surrounded by the succulent Joints, become very hard, woody, and unjointed. It grows in great Plenty all round the Sea-Coasts in that Country, especially about the *Holbeach-Wash*; they are said to be two *Species*, Annual and Perennial, but I rather believe the *Perennial* is the Seedling, which arose in the Autumn, and continues lower and more branch'd, being curb'd by the Cold of the succeeding Winter.

Erigerum, vid. *Senecio*.

XXII. *Eruca*.

Eruca latifolia alba sativa, C. B. 98. Tournef. Instit. 227. *sativa annua flore albo striato*, J. B. 2. 19. 150. Moris. Hist. 2. 228. Raii Hist. 806. Rocket.

XXIII. *Erysimum*.

Erysimum vulg. C. B. 100. Tournef. Instit. Hist. des Plants, 19. Moris. Hist. 2. 218. *Tragi flosculis luteis juxta muros proveniens*, J. B. 2. 21. 863. *Erysimum Irio*. Tabern. Icon. 448. *Eruca siliqua cauli appressa Erysimum dicta*, Raii Hist. 810. Synops. Stirp. Brit. 3. 498. Hedge Mustard.

The T R I B E.

Though these be reckoned two *Genera*, under different Titles, yet they resemble each other in the *Characteristick*, though not in the *distinctive Notes*, and agree with the Generality of the *Class* in their *Virtues*. They are among the *Flores Cruciformes siliqua brevi bivalvi* of Tournefort, and *Tetrapetalæ siliculose*, by most other Authors. Both are *Annuals* with jagged *Leaves*, and long, small *Pods*.

The Description.

Rocket is chiefly cultivated in *Gardens*, with an hard, fibrous *Root*, tall, streight branched *Stalk*, large *Leaves*, pretty much jagged, white, thin set *Flowers*, with small, streight, *bicapsular Pods*, pouring out small, round, hot tasted *Seeds*.

Hedge Mustard differs from it by the more branched and shorter *Stalk*; the *Leaves* jagged, and dented in a peculiar manner. The small, yellow, tetrapetalous *Flowers* are thick set in a *Spike*, to which succeed the small, round, *bivalve Pods*, ascending streight, and closely leaning to the Sides of the upper Part of the *Stalk* and *Branches*, by which it's distinguish'd from its *Congeners*. It grows on *Way-sides*, on dry *Banks*, and the Sides of *Cottages* with *Mud-Walls*.

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Virtues

Virtues and Uses.

The *Seeds* of most of this *tetrapetalous Class*, are chiefly us'd, and, as has been observ'd, very much agree in their *Virtues*, being of an hot Taste, and potent *Diureticks* and *Antiscorbuticks*. *Garden Rocket* is not much us'd in *Physick*, and but seldom in *Sallads*, because of its disagreeable hot Taste. *Eruca Lutea* sive *Barbarea*, is often substituted for it. They either mix it with *Becabunga Nasturtium aquat.* &c. and infuse it in *Diet-Drinks*, to be taken in a Morning in the Spring Season. The *Juice* is clarify'd, and drank alone in a Morning, as we have observ'd at *Cardamine*.

Hedge Mustard is esteem'd a potent *Diuretick*, and *Pectoral*, by refering of *Obstructions*; attenuating and inciding the tough *Pblegm* that oppresses the *Lungs*. The *Syrupus de Erysimo*, is esteem'd a good *Pectoral*.

XXIV. *Eryngium*.

Eryngium vulg. C. B. 386. J. B. 32. 586. Tournef. Instit. 327. Hist. des Plants, 78. Moris. Hist. 3. 169. Raii Hist. 384. Synops. Stirp. Brit. 3. 222. Sea-Holly.

The T R I B E.

This is variously distributed by *Authors*. *Morison* places it among the *Capitata non spinosa*. Mr. Ray, Synops. 2. makes it one of the *Plantæ flore discoide composito*. In *Meth. Emendat.* it is one of the *Corymbiferis affines*. *Boerhave* makes it one of the *Gymnomonosperma Capitata*; but *Tournefort* is positive it's one of the *Umbelliferae floribus in Capitulum congestis*; and in this he's followed by *Synops.* 3. where 'tis remov'd from *Dipsacus*, its wonted Companion, and join'd to *Bupleurum* and *Sanicula*, by the Title of *Umbelliferae foliis integris*. Indeed, if to have two *Seeds* succeeding a small, *pentapetalous Flower*, be a *Signum infallibile* of an *umbelliferous Plant*, without regard to the Disposition of the *Flower*, or making a Difference betwixt a *divided* and *undivided Leaf*, *Eryngium* comes properly in with that *Class*, which *Boerhave* also acknowledges; for though he says it's *Gymnomonospermos*, yet he denies not, but *Ovarium constat duobus seminibus*.

The Description.

It has a long, simple, *parenchymatous*, very much running Root, and descending deep in the Ground. The *Leaves* hard, stiff, full of Veins, narrow at the Bottom, becoming gradually broader, nitcht in several Places, and prickly, terminating blunt; the obliquely, ascending, short *Stalks*, adorned with less alternate *Leaves*, without Footstalk, and prickly at the Edges, are smooth and *channel'd*. The determinated *Stalk* and *Branches*, support round, somewhat prickly *Heads* or *Globes*, consisting of several green *Squamae*, surrounding small, *pentapetalous*, blue *Flowers*, each contain'd in a little tubulous, *quinquifid* *Calix*, all gathered together in a *Tuft*, furnish'd at the Bottom with small, green prickly *Leaves*; to each Flower succeed two, sometimes winged, at other Times plain Seeds. The *Maritime Species* is preferr'd, whose *Leaves* are much larger, smooth, whitish, and much more resembling the *Ilex aculeata*, or *Holly*, from whence the Name. Its *Roots* are more carnous, run very deep in the fine Sand on the Sea-Shore, of an agreeable, delicious, liquorish Taste. "The common *Sea-Holly* grows in rocky, craggy Ground, " but rarely on a Rock, as you descend to the Ferry from *Plymouth* " to *Cornwall*, observ'd by Mr. *Thornton*; not far from *Daventry* " in *Northamptonshire*, beside the old Roman Way, called *Watling-* " *Street*, near a Village called *Brookbat*, by Mr. *Lawson*, on the " Shore called *Friar-Goose*, near *Newcastle-upon-Tyne*." The *Sea-Holly* grows in fine Sand, on shallow Sea-Coasts: I observ'd it at *Yarmouth*. It also grows plentifully at the Light-House belonging to *Dundee*, situated at the Mouth of the River *Tay*, as you pass from thence to the *Castle of Broughty* in *Scotland*.

Virtues and Uses.

The Root is very comforting and nourishing; it's esteem'd *Diuretick* and *Aperient*, may be drank in *Ptisans*, with the *Radices* & *Aperientes*, in *Coughs* and *Consumptions*, and *hectic Fevers*; also in the *Jaundice*, and *Mensium obstructio*. It's also esteem'd effectual for provoking of *Venery*, the dry, candy'd Roots, are prescrib'd for that Purpose. It enters *Elect. Diasatyron*, in the old *Dispensatory*.

Erysimum, vid. *Eruca*.

XXV. *Esula* sive *Tithymalus major* ; & *minor*, sive *Pithyusa* ;
& *Esula Cataputia dicta*.

1. *Esula major offic.* Boerh. Ind. 256. *Tithymalus magnus multicaulis*, sive *Esula major*, J. B. 3. 34. 671. Raii Hist. 864. *Tithymalus palustris fruticosus*, C. B. 292. Tournef. Instit. 87. *Esula maj.* Dod pempt. 274. Hist. Oxon, 3. 34. *Shrub-Spurge*.

2. *Esula minor offic.* *Tithymalus foliis Pini forte Dioscoridis Pithyusa*, C. B. 292. Tournef. Instit. 86. *Cyparisse similis Pithyusa multis*, J. B. 3. 34. 665. Moris. Hist. 3. 887. Raii Hist. 867. *Small Spurge*.

3. *Esula Cataputia dictus offic.* *Tithymalus Latif. Cataputia dictus*, Tournef. *Lathyrus maj.* C. B. sive, *Cataputia minor*, J. B. 3. App. 880. Raii Hist. 86. *major annus Glaucophyllus*, Moris. Hist. 3. 337. *Garden Spurge*.

The T R I B E.

Plants of this Class, passing under several Denominations in the Dispensatory, as *Cataputia*, *Esula*, *Tithymalus*, &c. I choose to treat of them in this Place, for *Ricinus* being *Cataputia major offic.* has not the same Notes, so that I must have disjoyn'd it from what is more frequently called *Cataputia* : And though all the *Esulae* are *Tithymali*, yet *Esula* being a more frequent Name in the Shops, I choose to treat of these at *Esula*, and not at *Tithymalus*. Morison joins them together into one Sect called *Plantæ tricoccae purgatrices*, and first distributes into *Lactescentes* & *non Lactescentes*. The *Lactescentes* come in here, and the *non Lactescentes*, viz. *Ricinus*, shall be treated of in its proper Place. The first, according to that Author, is plac'd among the *perennes Capsula verrucosa*. The second, is one of the *perennes foliis deciduis, Capsula seminali levi*. Mr. Ray places them among the *Fl. tetrapetalo anomalo*. Boerhave calls them, *Triangia tricoccae*. Their general Character is, that they have a *fibrous Root*, whether Annual or Perennial, undivided, simple, pointed *Leaves*, some broader, others more narrow, plentifully endow'd with a *milky Juice*. When they break forth into the *Flower*, they have four or five small *Leaves* of a *Perianthium*, which soon fall back and decay ; these support two pointed *Leaves* for the *Calix*, and a *tetrapetaloid Flower*, or deeply divided *Monopetalous* one, according to Tournefort, into four green, or herby *Segments*. From the Middle arise several *Stamina*, with their *Apices*, which surround a long,

a long, round *Stylus*, to which hangs the *Embryo* of a three Square, or six Square *Fruit*, divided into three *Pouches*, after which it becomes *tripartite*, with three *Buttons*, each of the *Pouches* has one proportionally big *Seed*, poured out at the longitudinal Opening.

The Description.

The first arises with a streight, round, tough, sometimes woody *Stalk*, two or three Foot high, beset with alternate, and inordinate, long, narrow, ungreen blunt *Leaves*; the upper Part of the *Stalk* becomes reddish, and sends forth numerous small *Branches*, dispos'd into Umbels of *Flowers*, each endow'd with broad, roundish, crenated *Leaves*. The *Flowers* proportionally large, as above the *tricapular Fruit*, rough, wart-like, each containing *three Seeds*. The *Root* is sometimes very gross, running deep into the Ground, and dispers'd into many *Fibres*. It's cultivated in Gardens.

The second has a streight, round *Stalk*, not much branch'd, about one Foot high, the alternate, thick-set narrow *Leaves*, like those of *Toad-Flax*. The *Flowers* are dispos'd also into Umbels. The *Root* is not so gross, but running forth many new Shoots in the Spring. It also grows in Gardens. The *Fruit* is smooth, and the *Leaves* drop in the Autumn.

The third arises yearly from the *Seed*, with two long, narrow *Seed-leaves*; the *Stalk* is streight, and not much branch'd, round, and gross, about three or four Feet high; the alternate, bluish, green *Leaves*, are two or three Inches long, tapering, and pointed, so dispos'd, as to be exactly opposite to each other, in the Ascent forming a Cross. The *Flowers* upon the Top of the determinate *Stalk* and *Branches*, proportionally large, are not push'd forth till the second Year. It grows in Gardens, where it spontaneously propagates it self by the hardy *Seeds*, which lying in the Ground, endure the Winter Hardships.

Virtues and Uses.

All these, under whatever Denomination, partake of that same *Emetick* and *Cathartick* Quality, and need to be well macerated and corrected with Vinegar, before they can be fit for internal Use: They plentifully evacuate serous and *hydropick* Humors. The *Roots* prepared,

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prepared, enter *Pilule fœtidæ*, and *Mechoacannæ*. *Grana Tigliæ*, sive *Tilia*, about the Bigness of *Cicera rubræ*, are Seeds of some Species of *Tithymals*. I have seen *hydropick Pills* made up of *Gutta Gamba*, *Aloes*, and them with suitable *Aromatics*; they work upwards and downwards, but should only be given at beginning of an *Anasarca*, and *Hydropsia*, when such Purgatives may be given, but it must be to robust Bodies, and naturally strong Constitutions. The *milky Juice* is so *Corrosive* and *Acrimonious*, that being apply'd to the *Warts* in any Part of the Body, it kills them, and makes them dye away.

XXVI. *Eupatorium Avicennæ*.

Eupatorium Cannabinum, C. B. 320. Tournef. Instit. 455. Hist. des Plants, 193. *adulterinum*, J. B. 2. 24. 1065. *vulg. fol. trifido*. Morif. Hist. 3. 37. *cannabinum sive mas*, Raii. Hist. 293. Hemp-like Agrimony.

The T R I B E.

It's one of *Tournefort's flosculous Flowers*, separated by Mr. Ray from the *Corymbiferae nudæ*, by its being *Papescent*, and not *Lactescent*; and from the *Capitatae*, by the Smallness of the Head, tho' the *Flowers* be compound.

The Description.

From an hard, woody *Root* above, soon dispers'd into many white, small, hard *Fibres*, there arise several reddish, strong, hairy *Stalks*, not much branch'd, about two or three Foot high; the numerous *Leaves* arise by Pairs, three and three united at the Center, like those of *Hemp*, from whence it has the Name, oblong pointed, and serrated. The *Flowers* in Tufts, or Umbels, are reddish, five or six together, endow'd with several long, forked *Thrums*, to which succeed several oblong, downy *Seeds*. It grows in moist and shady Places, and along Ditch-sides.

Virtues and Uses.

It's esteem'd *Attenuating* and *Aperient*, reserating of *Obstructions*, and good in *intermittent Fevers*. The *Roots* are said to be *Cathartick*,

tick, both above and below. The *Flowers* are reckoned very *Vulnerary*. Some give the *Infusion* of the *Leaves* by way of Tea, to be drunk by *hydropical Persons*. After the *Paracenthesis* is perform'd, they make clarified Whey with it, and Fumitory, and give it plentifully to those who are troubled with the *Green-Sickness*, and with the *Itch*. It's not much us'd in the Shops.

Eupatorium Veterum, vid. *Agrimonia*.

Eupatorium Mesues, vid. *Ageratum*.

XXVII. *Euphrasia*.

Euphrasia offic. C. B. 233. Tournef. Instit. 174. Hist. des Plants, 194. *Euphrasia*, J. B. 3. 30. 432. Raii Hist. 17. Moris. Hist. 3. 430.

The *TRIBE*.

This is one of *Tournefort's* anomalous *Tribe*, because it has a *Lip-Flower*, with those of that Class, and a *bicapsular Fruit*, being one of *Boerhave's* *Diangie Polyspermae*, and *fructu sicco flore irregulari* of Mr. Ray.

The Description.

It's a low, annual, streight Plant, much branch'd at the Top, about a Span high, with an hard, white, simple *Root*. The *Stalk* is adorn'd with numerous small, roundish, serrated *Leaves* by Pairs, without *Footstalks*; the small *Flowers* arising single from the Bottom of the *Leaves*, in a *quadrifid Empalement*, are two lipp'd, white, pleasantly variegated with purple Lines; the lower *Lip* divided into three bifid *Segments*, with a yellow Spot in the middle; the upper *Lip* being also bifid, is erect, bending back, endow'd with several yellow *Stamina*, and each *Flower* succeeds an oblong, flat, *bicapsular Seed-Vessel*, containing several oblong, Ash-coloured *Seeds*. It grows in Heaths, dry Pastures, and moorish Places; the bright *Flowers* are conspicuous at a great Distance, from whence it's called *Eyebright*.

Virtues and Uses.

This is, by the unanimous Consent of all Authors, esteem'd a most potent *Optthalmick*, on which account, the *Aq. Euphrasie* is kept in the Shops, and is the most frequent *Menstruum* for *Collyriums*. The *Powder* of the dry'd *Herb* is often mix'd with other *Optthalmick Powders*; but whether this is because of the *Signature*, or its *darting the EYE*, by its first Appearance, I shall not determine; though both the *Greek Name*, *Euphrasia*, and the *Englist Name* *Eyebright*, seem to import so much.

F I N I S.



PHARMACO-BOTANOLOGIA:
 OR,
 An Alphabetical and Classfical
 DISSERTATION

ON ALL THE
British Indigenous and Garden Plants
 OF THE
 New *London* DISPENSATORY.

In Which
 Their GENERA, SPECIES, *Characteristick and Distinctive*
 NOTES are Methodically described; the *Botanical*
 TERMS of ART explain'd; their *Virtues, Uses, and*
Shop-Preparations declared, from proper Observation.

DECADE VII.

By PATRICK BLAIR, M.D. and F.R.S.

*Miseri mortales qui Naturam ejusque Artificium abdunt, ubique
 diligentia Patens, & Amplissimos solis Radios Nubecula ob-
 fuscant.*
 Barth. Epist. ad Lyserum.

L O N D O N:

Printed for G. STRAHAN, at the *Golden Ball*, over-against the
Royal Exchange in *Cornhill*; and Sold by W. and J. INNYS,
 at the West End of *St. Paul's Churchyard*; and W. MEARS,
 at the *Lamb* without *Temple-Bar*. M.DCC.XXVIII.

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THE

THE

P R E F A C E

T O T H E

Seventh D E C A D.



Intimated in the Preface to Decad IV. that tho' the most considerable Classes of Plants and Terms of Art be explained in the preceding Numbers; yet I should find means to enrich the following, with what would prove both Useful and Diverting.

Accordingly Decad V. exposes to View a Set of the most useful Plants in the Materia Medica, on account of their Virtues. The VIth sets forth Crocus, or the true English Saffron, with all its advantages, declares in full the general Notes of that Class, and concludes with such a collection of Tournefort's Monopetalous, Anomalous Flowers, as the Alphabet could admit of.

This VIIth affords a good Variety of useful matter relating to most of the Plants contained therein. Faba has scarce neglected any thing by which the Leguminous Plants may be distinguished from all others. The superficial Treatment of Ficus by some who lately pretended to greater Exactness, the accurate Account of it by some eminent Foreigners, and the observations I have been able to make, have occasion'd my being more particular on that Subject. The ingenious Mr. Philip Miller, in his Dictionary, has writ so fully on several other particulars belonging to Figs, that I need only refer the Reader for farther satisfaction to that valuable Treatise. One thing I must add; that he quotes Mr. Geoffroy for assigning Hermaphrodite Flowers to Ficus, which confirms what both Boerhaave and I have observed, but makes against Pontedera and Mr. Geoffroy himself. For the one denies the Sexes of Plants, which this confirms: and the other will have the Seminal Plant to be contain'd in each Grain of the Farina; which the Structure of the Style will

will not admit of. For it's upper part is bended like a Hook to refuse entrance, as it were, to the Farina.

Filipendula, from the Singularity of it's Notes, is variously distributed by several Authors; it's use in Physick is not great. Next follows the Fœniculum with it's officinal Brethren. I have so fully declared the general Characters of the Umbelliferæ at Ammi, Decad II. that I left nothing of moment to be added, but that these have their Leaves cut into fine Capillaceous Segments, called Fœniculaceous from Fennel itself. I have said but little concerning the Filices, having given a general Idea of the Capillares, Decad I. I have not recommended their Virtues with much earnestness, what has been deliver'd concerning them being only traditional. Genista and Glycyrriza continue the Class of Leguminous Plants; I have been at some Pains in giving an account of the Culture of Glycyrriza (because of it's being so noted a Shop Root, and of such eminent Virtues,) not so much from my own Experience as from good Authorities. I have been since inform'd, a natural, light, sandy Soil is fittest for it. I confess I am not fond of what they call rich Dung. I think it should be well rotted and rendred light by being well mixt with other soft, kindly Moulds. The throwing of fresh Dung into the bottom of the Trench, if deep, cannot be amiss, because it becomes a Fœtus at such a Distance, especially in the Winter; and it's active Parts will be much spent before the Roots can reach it. Sand undoubtedly is a great means to make the Root spread far. We may observe in Eryngium Maritimum how far it spreads, and how deep it runs in the Sand on the Sea Coast. Fragaria is universally allow'd to have naked Seeds: the Pulp of the Fruit not enclosing the Seeds as in Berries; Frangula might have been omitted, only on account of the inner Rind having been esteem'd good for the Jaundice: tho' perhaps for no better Reason than it's being of a yellow Colour. Fraxinus is so noted for it's medicinal and mechamical Uses, especially the latter, that it well deserves Room here. Rivinus is at such pains about the Difference betwixt Capsular and Naked-Seeds; sometimes to please his own Humour, and sometimes the Dictates of others, that I thought fit to discourse a little on that Head at Fumaria.

Though Gentiana stand alone in this Decad, as to the Tribe, yet it is a most conspicuous Plant in the Gardens, and of great value on account of it's eminent Virtues. The Gerania appear here more on account of their botanical Distributions, than their medicinal Uses; for it's only a regard to the Ancientss that still keeps them in the Catalogue. The manner of Nourishment, ever-green Leaf, and time of Flowering and Fruetification have made me join Viscum to Hedera Arborea, I could have much enlarged my Discourse on that Plant, but I was afraid of being accounted too tedious.

P H A R M A C O.



PHARMACO-BOTANOLOGIA;

OR, A


TREATISE

OF

DISPENSATORY PLANTS,
Alphabetically and Classically disposed.

DECAD VII.

I. FABAE.

1.  *ABAC. B. 335. Cyamos Leguminosa, J.B. 2, 13, 179. Tournef. Instit. 391. Raij Hist. 909. major, five Bona maj. Dod. Moris. Hist. 2, 83. Garden Bean. Rivini Icon. Plant. irr. tet.*
2. *Faba minor, five equina, C.B. Tournef. Instit. Moris. Hist. Raij Hist. Synopf. Stirp. Brit. 3, 323. Rivini Icon. Common Field Beans, or Horse-Beans.*

The Tribe.

I have given such a general Idea of the *Plants*, which regularly constitute this *Class* at *Anonis, Decad III. pag. 303.* that I need only add
G g g g what

what has been there omitted, and that the *Botanick Student* may come to a thorough Knowledge of its several *Notes* and *Characters*. There are not many *Tribes* among the *European Vegetables*, that appear so well to be of the same *Tribe* and *Family*, as these of this *Class*; for if we consider them as to their *Seed Leaf*, there is a great resemblance betwixt them, according to their several *Distributions*. *The Habit of the whole Plant*, at the first View, shews what its *Kindred* and *Relations* are; the *Flower*, of whatever number of *Petals* it consists, has still the same or very near the same *Appearance*; for whether they be *monopetalous*, doubly or triply divided, whether *bipetalous*, *tripetalous*, or *tetrapetalous*, they can soon be known to be genuine *papilionaceous Flowers*, and as soon distinguished from any of a *bastard Race*. 2. Their *Fruit* is as infallible as any of the other *Notes*; they are constantly *siliquous* or *siliculous*, not one *gymnospermous Seed* to be seen among them, naked *Seeds* properly so called are utterly unknown to any of this *Family*; and as to the *Seeds* themselves, the *Finis ultimus* of all *Plants*, as *Ammannus* the true *Disciple* of *Dr. Morison* expresses it, they are for the most part *Reniformia*, and if they vary, as sometimes they do, into *Rotunda*, *Quadrata*, &c. yet there is still in this *Variation* what shews them to be of the *genuine Race* of the *Papilionacei*. 1. To descend to the particular consideration of each of these *Parts*. The *primum Principium* of all *Plants* is certainly the *Point* of the *Radicle*, which at the first *Formation* of the *Embryo*, was only a *Continuation* of *Sap Vessels*, or a *Production* of *paralle Fibres*, from the *Pedicle* passing along the inside of the *Hinge* (as it were) the most artfully contriv'd *Joints* of a *bivalve Pod*, like those of the most curious *Snuff-Boxes*, and do at certain *Distances* emit *Cotyledones*, like the *Secundine* of the *Uterus* of a *Cow*; from whence proceed two kinds of *nutritive Fibres*, the one for the *common Tegument* to all the *Parts* which compose the *Seed*, and the other to the proper parts which constitute the *Seed* itself: So that after the outer *Coat* of the *Embryo* is form'd, and the *Sap* has been so plentifully distributed, as to fill up its inner *Substance*, which in time becomes firm and solid, then as the *Fætus* in *Utero* makes towards the *Portus*, the *Cotyledon* and the *Eye* of the *Seed* naturally take leave of each other; and what was then the *ultimus finis* of the *Mother-Plant*, now becomes the *primum principium* of its *Progeny*. I have insisted more on this at *Faba*, because this is the very *Example* produc'd by two contending Parties, to maintain two quite opposite and different *Sentiments*. *Dr. Grew*, to whose everlasting *Memory* be it said, was the first who gave *Intimation* of the *Sexes* of *Plants*, as of *Animals*; In giving the *Idea* of the *Structure*

Structure of a *Bean*, demonstrates an Hole he discovered at the beginning of the *Eye* of this *Seed*, at which the Point of the *Radicle* is lodg'd. Mr. Morland pretends to have first discovered this Hole, which he calls a *manifest Perforation*, and says Dr. Grew fail'd when he pretended the Impregnation of *Plants* was by *Effluvia*; whereas each Grain of the *Farina fecundans*, containing a *seminal Plant*, (this *Perforation* being always towards the *Pistillum*, as he pretends) 'tis by this that the Grain of the *Farina* must enter, and so being already the wrapt up *seminal Plant*, it afterwards becomes the *Semen*, and at last the *Plant* itself. I have fully discoursed on this Subject elsewhere, and shewn the Fallacy of the Opinion, that I only name it here, and take notice, that the Place where they say the *seminal Plant* is lodg'd, is only the Situation of the Point of the *Radicle* to a new *Plant*, which I am willing should be called the *Punctum Vitæ* from whence the future *Plant* derives its Origin; this being the *primum principium*. And as all *Seeds* of the same *Class* have constantly the same Figure; so 'tis my humble Opinion, nothing can more certainly determine the several Families to which each *Plant* belongs, than an exact observance of the *Seed-Leaves* of each *Genus*. But as I design that for a separate Discourse, least I should digress too far I omit it here, with this general Remark, wherever the *Seed-Leaf* of a *papilionaceous Plant* is narrowly observ'd, it may soon be determin'd whether it belong to such a Family or not.

2. The Habit of the *Plant*. There are no Trees, nor Under-shrubs, and but few Shrubs of this Class, belonging to the *Dispensatory*. The Herbs are with *Stalks erect*, or infirm, and these with or without *Capreoli* or *Climbers*, every one of them smooth and of a peculiar green Colour. The *Leaves* are very seldom single, always alternate, sometimes *bifoil*, more frequently *trifoil* or *pinnated*; the *Pinnæ* are by Pairs, or alternate on the mid-rib with *Capreoli*, or with an *Impair* at the Extremity.

3. The *Flowers*; sometimes *bipetalous*, frequently *tripetalous*, and not always *tetrapetalous*; sometimes the *vexillum* is proportionably larger, sometimes the *Carina*, and sometimes either *vexillum* or *Carina* by their Largeness supply the Defect of the *Alæ*. Rivinus, who lays holds on every Opportunity to reprehend Dr. Morison, tho' not always with equal Success, takes notice of his Account of these Flowers; thus, *Legumina—florem habent papilionis volantis formam aliquatenus referentem, tribus partibus constantem quarum major sursum erecta, vexillum nobis dicitur, binæ alæ sunt laterales seu labiales amplectentes rostrum parvum sursum tendens QUOD EST RUDIMENTUM SILIQUAE FUTURAE*. Had he said *in quo includitur rudimentum*, it had been better; and 'tis highly probable

bable he meant so, and that this Expression is rather *per incuriam*, than *per ignorantiam*; for 'tis scarce to be imagin'd so acute a *Botanist* would mistake so conspicuous and florid a Part to be the *Rudimentum siliquæ*, and not examine whether there is any such thing within it, and *Rivini's* taking notice that the same is repeated, only shews the mean Opinion he has of the *Author*; to say no more, I confess *alterum ei inferius Carinatum, tum stamina, tum siliquæ rudimentum protegens, & occultans* is better. But there still wants more to be said, which I think I am the first who have remark'd it, viz. That this *Fruetus Rudimentum* is always *vagina cartilaginea fimbriata inclusum*. *Tournefort* indeed has this Pistillum with its Stylus, pull'd out from the including Vagina, delineated at *Flos papilionaceus*, Tab. 209. and at *Lathyrus*, Tab. 116. but no where do I find it named until I mentioned it at the abovenamed *Anonis*, Decad III. tho' it be of such moment to this Flower that it should not be pass'd in silence. Upon Examination I find it to be the several flat, broad, white, hard, cartilaginous *Stamina*, so united as wholly to surround the *Fruetus Rudimentum* even to the Extremity, or its Articulation with the Stylus which is also solid and cartilaginous bended upwards according to the Form of the *Carina*. This *Vagina* terminates into the several *Stamina*, forming a *Fimbria*, or Fringe, with the small yellow *Apices* resembling the tufted Fringes lately in fashion. They never exceed the Length of the *Embryo siliquæ*, so that the solid Stylus, as it were, naturally turns away from them; and this, were there no other Argument, is enough to confute the opinion of those who will needs have the Grains of the *Farina* to enter the Pistillum. The Number of the *Apices* I take to be indefinite, I propos'd 8 at *Anonis*. On second Examination I do not take them to exceed 4 or 5, and chiefly plac'd at the lower part of the Siliqua. The Use of this Vagina is obvious to guard the tender *Embryo*, 'till 'tis capable to resist the Injuries of the Air; 2d. To preserve the parsimonious *Farina* from being lost, to which the cavous *Carina* contributes; for no sooner is the Dust shed than it partly falls into the Bosom as well as Bottom of the *Carina* without, as betwixt the *Vagina* and *Embryo* within, in both which Places it meets the *melleus Liquor*, said to be in *Pontedera's Receptaculum*, where it plentifully bedews this Dust, and thus both contribute to the Impregnation of the *Embryones Seminis* by the Effluvia.

4. The Fruit is either *siliquous* or *siliculous*, peculiar to this and the *tetrapetalæ cruciformes*. If therefore there be any Flower, however it be *papilionaceous*, yet if it is succeeded by a *gymnospermous* or *capsular Fruit*, 'tis none of this Class, for they are all *enangiospermæ*, whether *monospermæ*,
dispermæ,

dyspermæ, or *polyspermæ*. The difference I take to be betwixt *Capsula* and *Siliqua*, is, that *Siliqua* is always *bivalvis*, with a longitudinal Opening, but a *Capsula* is not always *bivalvis* and opens variously; so that a *Capsula* may be bivalve or not, but a *Siliqua* must be bivalve. Some Objections be made against this general Rule, but upon Examination they may be soon removed, as *Bursa pastoris* and *Thlapsi* cannot properly be called *bivalve*, because their *Siliquæ* open equally on both sides; whereas the *bivalves* for the most part open before, and keep shut at the back part, but their longitudinal Opening is sufficient, and beside most of the *Siliquæ* of the *Flores cruciformes* are *diangiæ*, and their Eye is always lateral, but never towards the Stylus, yet they are differently adherent to the *Placenta*, from the *papilionaceous Siliquæ* which are always *unicapsular*, and frequently open longitudinally with regard to the Pedicle, v. g. in the *Medica's*, tho' in the contorted Fruit the Seeds seem to lie horizontally, but when you begin to unfold it, you'll find the two thin transparent Sides disposing of the *Seeds* longitudinally. Authors make several other Distributions of these *Genera*, according to the Figure and Situation of the *Siliquæ*, as the *erectis*, *propendentibus*, &c. but it would be too tedious to enumerate them here.

Lastly, the *Finis ultimus*, the Seed, which I have observ'd are, generally speaking, *reniformia*, if they are *oblonga*, *rotunda*, *quadrata*, or if the Eye be situated at an End or in the Middle it matters not, there is sufficient in all of them to demonstrate that they are of this Class. Therefore *Rivini* is at too much pains to violate and break in upon the Rules and Dictates of Nature, by a confus'd heaping up a Mass of Plants which cannot come in with these to bring all together with his *Flores tetrapetalæ irregulares*, but of this more hereafter. The general Character then of this *Faba* is, that 'tis an Annual Plant, with a strait Stalk, pinnated Leaves, alternately on the mid Rib, erect, *papilionaceous* Flowers and Pods, big oblong Kidney Seeds, with the Eye at one End.

The Description.

Tho' the *major* and *minor* specifically differ, yet one Description shall serve for both. From a thick round *Seed-Leaf*, seldom to be seen above Ground, the *Plume* first appears, which soon mounts to form the *flowering Stem*, which arises with a strait striated, rather *quadrangular*, *Stalk*, 2, 3, 4, or 5 Foot high in the first; not exceeding 2 or 3
H h h h Foot;

Foot; in the second, the alternate *pinnated* Leaves large broad blunt in the first Extremity; narrow, more pointed, and less in the second, are 4 or 5 in Number on the Midrib. The *papilionaceous* Flowers, with a subrotund large white *Vexillum*, two clapt in Wings, not unlike those of a *Magpie*, with a large oval black Spot appearing on each side in the middle, guarding the *Carina*, or Body of the *Fly*, which involves the *Embryo fructus* with its *Vagina* and *Apices*. They are disposed in *Racemi*, on short common Pedicles arising from the bosom of the Leaves at the lower part of the Stalks, at the upper they are thick set round the Stalk, many of them drop the remaining *Embryons* which swell to a *Pod*, are thick, spongy, broad, flat, and large, containing 4 or 5 large flat broad *Seeds*, with a long oblique Eye at one End, in the first proportionally less, thick, round, with an oblong smaller Eye in the second. The first are planted in Gardens, these esteemed the best of a dull white or red Colour, pass by the name of *Windsor-Beans*; I suppose they were first imported from *Turkey*, for I have seen those called so of the same Bigness and Shape, and of a much clearer white and brighter scarlet, the whole being full and firm, without being dry'd, or wound up within an empty Husk; so that I suspect these now so common are the other degenerated by a colder Climate, and coarser Soil. The other is often sown in the Fields.

Virtues and Uses.

The *Leguminous Plants* as they are distinguishable in their *Notes*, so in their *Virtues*, among which there is a great Harmony. They are called *Legumina* from *lego* to gather. Most *Quadrupeds*, who partake of *Vegetables* for their Food, delighting much in them, where they meet with them in the Fields, they affording an agreeable Taste whether in Grass or Hay, and are very fatning. What Service *Trefoils*, *Saintfoins*, *Tares*, *Vetches*, do to Horses is well known. *Beans* and *Pease* are chiefly used for Food to Men. *Garden Beans* boil'd and eat with *Bacon*, is known to be the most common Dish for all Palates, Ranks, and Degrees of Persons in *England* during the Season. They sometimes make Bread of the common *Bean* mix'd with *Pease*, and give it to the Labourers at course Work, and they find it very strengthening. *Bean-Flowers* are esteem'd potent *Cosmeticks*, for washing and cleaning the *Face* and *Hands*; they distil the Water for that purpose. *Bean-Meal* is also fit for the same. *Farina Fabarum* is digestive, resolute, and discutient,

discutient, 'tis made into *Cataplasms* with *Farina Fænugræci*, *Hordei*, *Lini*, &c. for hard, indurated, *scrophulous Tumors*, either to dissolve, discuss, or bring them to Suppuration.

I hope the following Experiment I made several Years ago, will not be an impertinent Digression. Being to wait on a Nobleman upon his Return to a Seat in which he had not liv'd for two Years before, they shew'd me a Box of a duskyish brown Powder, which upon opening afforded a Smell as strong as that of Spirit of *Sal Armoniac*. It had lain in a neglected Garret, and they call'd to mind it must be *Bean-Meal* they had us'd some time ago for their Hands and Face. I desir'd to have it home to make the *Chymical Analysis*; it weigh'd about 2 *lb*. I put it into a small *Alembick*, and by a gentle Fire procur'd 2 *dr*. of solid *volatile Salt* and near to 1 *oz*. of Phlegm. I removed the *Capital*, put the *Salt* into a Phial, and having empty'd the Phlegm, I augmented the Fire and procur'd half an Ounce of a strong black *fetid Oil*, like *Ol. C. C.* The *Salt* had a *volatile Smell* but *fetid*, different from its former Scent and approaching nearer to the Smell of a *Bean*. This being the only solid *Volatile Salt* I ever saw procur'd by Sublimation from Vegetables, I am of Opinion it might rather be the nitrous Particles of the Air admitted into so porous a *Body* during that space of Time; but whether this had attenuated and subtilised the Salts themselves, or whether the natural fix'd Salt in the Meal still remain'd I am uncertain, for the remaining *Black magma* was in so small Quantity that it was not worth while to burn it, and to endeavour to procure a *Lixivium*. Being desirous to know the difference betwixt the *bitter corymbiferous* and the *sweetish Pea-Bloom Taste*, and whether any of it depends upon the Quantity of the fix'd Salts in them, I have been at pains to make the Lixivial Salts of several Genera of Plants, in order to guess as near as I could the Proportion they did bear to one another; as *Absinthium*, *Artemisia*, *Anonis*, *Carduus B. Centaur. min.*, *e stipitibus Fabarum*, *Genistæ*, &c. *Absinthium* bore the largest Proportion, *Faba* the next, *Artemisia*, *Anonis* the same, and *Centaurium minus* larger than *Card. B.* By which I conclude, that the Quantity of Salts in *Absinthium*, &c. depends upon the Firmness of their woody Stalks, and that the loose Texture of *Carduus* is the Reason why it bears a smaller Proportion than *Centaurium minus*, whose Stalks are proportionally more firm; so that the difference in Taste must depend upon the different Modification of the terrene Particles with these Salts. The Use of the Field-Beans is for Food to Horses, feeding of Hogs, and there are who make Meal of it, being mixt with

with Pease, Wheat, Rye, which proves very strengthening to robust Labourers, as is observ'd.

II. *Ficus*.

Ficus communis, C. B. 471. *Ficus*, J. B. I. I. 173. Raij Hist. 1431. Tournef. Instit. 662. Boer. Ind. 2. 258. Pontederæ Antholog. 227. T. xi. Malpig. Anat. Plant. 67. T. 47. *The Fig-Tree*.

The Tribe.

Proper Observation, and where that is wanting good Authority, with suitable Remarks, being what I propos'd upon my first enterprising this Treatise, do all naturally meet upon discoursing on this noted Vegetable. A modern Alphabetical Describer of the *Dispensatory Plants*, who pretends " he has not only consulted the *Botanick* Authors " of greatest Note but had recourse to most of the *Simples* themselves " in their natural Production; " has so superficially skimm'd the Description of this so useful a Plant, that he says, " it has no visible " *Flowers*, they are supposed to be in the *Fruit*: " Whereas most *Botanick* Authors since *Cordus*'s Days could have assured him this is no bare Supposition but a real Truth. Being therefore unwilling so noted a *Fruit* should pass without a more exact Examination; I have chosen to exceed the ordinary Bounds, and inform the *English* Readers what *Latin* Authors have deliver'd on this Subject; adding my own Observations, that they may have Recourse to the Gardens of the Curious, and satisfy themselves of the Truth of what has been deliver'd; and make what farther Improvements upon stricter Examination they shall think fit. I need say nothing of its *Tribe*, since *unanimò omnium Authorum consensu, est PLANTA sui Generis*.

The Description.

By its usual Stature, Grossness of its Pith and Marrow, tho' not by the Texture of the Wood, it much resembles *Sambucus*, or the *Elder-Tree*; and by the knotty Joints of the Branches it is not unlike the *Morus*, or *Mulberry*. As to the Timber, that of *Ficus* is loose and spongy,
and

and that of *Sambucus* firm and solid when of any Years standing: The Root is more tough and firm spreading far in the Ground sending many Fibres. The Trunk is often bended and crooked, the Bark smooth, the Branches much contorted, the Shoots gross, the Leaves much larger than those of the *Vine*, dark green for the most part *pentagonal*. The *Fruit* appears here and there inordinately on the *Branches* on short Pedicles; the whole Tree abounds with a viscid bitterish milky Juice.

I begin what farther Accounts I am to give from Authorities and add my Observations. *Pontedera* in order of time should be last, but I quote him first, as being more particular. He mentions 3 Genera, *Ficus Sativa*, *Caprificus*, and *Erynosyce*; he distinguishes them as to their production into *Annua*, *Bifera*, and some *Trifera*, i. e. pushing forth *Embryons* once twice or thrice a Year.

Ficus Sativa has *apetalous* (rather *monopetalous*) *Flowers*, in small oblong multifid *Calices* thick set and very numerous, occupying the inner Surface of the *Cavity* of the *Fruit*: And tending from the Circumference to the Center; whose *Embryons* have a *Tuba* but no *Stamina* or *Apices*.

Caprifici, or *Grossi*; The wild or Goats-Fig have no *Embryons* nor *Tuba*: *Stamina* they have and *Apices*, but never ripen.

Erynosyce have *Stamina*, *Apices*, also *Embryons*, but drop before they are ripe. These of them he calls *Serotina* have neither *Stamina* nor *Apices*, only the *Ungues Squamosæ* like the manur'd Fig. When they are at a certain Degree of Ripeness, they are eatable and of a sweet Taste. He looks on them as a kind of *Mongrels* betwixt *Ficus Sativa* and *Caprificus*.

Pag. 170. we have his account of the *Ficaria insecta*; and pag. 175. he gives his opinion of the *Caprificatio*. *Tournefort* in his *Voyages* to the *Levant*, had brought him into this Disquisition, and his great Endeavours to withstand what has been advanc'd concerning the Sexes of Plants, has made him insist more largely on it: *Tournefort* informs us, that where the Figs are cultivated in greatest plenty in *Greece*, the ripening of their Figs very much depends on the greater or less abundance of a certain Insect, which terebrates into the very Center of the *Figs*, and by the Admission of the Sun's Rays the whole fruit is disposed to ripen the sooner; therefore Care is taken when they are scarce, to have them convey'd from these *Caprifici*, wild or Goat Figs, to the *Sativi*. *Pontedera*, to elude the force of such an Argument goes about to prove, that however they feed on the *Sativi* as well as *Caprifici*, yet they are no wise necessary. He informs us that *Aristotle*, *Theophrastus*, *Pliny*, and most of the celebrated *Ancients*, have declared this *Caprificatio*

was a Practice in their days. And altho' he says we have no farther Account of this *Caprificatio* since that Time, yet he acknowledges such Insects are still to be observ'd in *Italy*; whether the same Species or not he is uncertain.

The account he gives of these *Culices* seems as if he design'd to afford the most potent Arguments in favour of what I contend for. He says, they are only to be observed in such Fruits as have *Stamina* and *Apices*, viz. *Caprifici* and *Erynosyce*; That there they nestle, lay their Eggs, are hatched and fed, and when capable carry away a great Abundance of the Farina, from the *Apices* upon their *Legs*. He adds, however it may be in *Greece*, they are never to be seen on the *Ficus Sativa* in *Italy*. Then he takes upon him to prove, however they may be necessary in the one Place, they are no wise necessary in the other. On this Account he uses several Arguments, too long to be repeated, and concludes, *Quapropter concludendum Caprificationem in Græcia, ob externas Causas esse necessariam nequaquam ob Ficus naturam cum alibi poma coquantur non Caprificata.*

But I leave him, and go on to consider what others have said. I begin with *Malpighi*, pag. 67. T. 27. no. 172. where the Reader will find an admirable Contexture of the Fibres of the *Parenchyma*, with the Situation and Origin of the *Embryons*, whom he may consult.

Tournefort has accurately delineated the *Fig* of several Bignesses, but has chosen a Figure too ripe for his Patern; for he only exhibits apart the *Embryo Seminis* surrounded by the *Capsula*, which was contain'd within the *Petal* and *Calix*, at the bottom of the Flower.

But the accurate *Boerhaave* affords greater Satisfaction; for he declares they are *Monopetalous Hermaphrodite Flowers*, which, with what I am now to advance, I hope will serve to clear the Truth.

This *Fruit*, by the several Sections I have made on it, both longitudinal and transverse, and in its different Magnitudes, convinces me it has hitherto been examin'd but when it was near to a full Ripeness; whereas its known a Flower ought to be look'd into, from the Swelling of the *Bud* to the total Expansion. Having taken this Method I made the following Remarks.

Whereas all other *Trees*, *Shrubs*, and *Undershrubs*, do, before throwing off the annual Surface for that Year, form three *Germina* or *Buds*, that for the *Leaf*, the *Flower*, and the *Shoot*; so this *Ficus* only forms two, because the Fruit and Flowers are the same; so that its very natural for *Ficus Sativa* to be *Bifera*, because where the Flower-bud in other *Trees* is form'd, here is the Formation of the Fruit itself. And
whereas

whereas there is a gradual Proceſſion from the Flower to the Fruit in other *Trees*; here *Flower* and *Fruit* go hand in hand and make an equal Progreſs towards Perfection. Again after the *Summer Setting* Time is paſt, when the *Autumnal Shooting* Time begins, when not only both Shoots and Leaves are puſh'd forth, for that ſame Year; here Proviſion is alſo made for the Autumnal Fruit of that ſame as well as for the three *Autumnal Shoots* for the next Year: ſo that ſo long as the *Autumn* continues to be ſeaſonable, this *Fruit* is capable to be brought to Perfection; but if Froſts or unſeaſonable Weather happens, the ſecond Crop muſt fail, and this dropping of the Autumnal *Fruit*, may be as much owing to the Decay of the *Leaves* as want of Strength in the *Fruit*, for the *Fruit* being of a thick ſucculent Subſtance might endure ſomewhat of itſelf; but when depriv'd of the uſual Defence by the *Leaves*, which upon the firſt Storm drop off, there being now nothing to defend them, they muſt alſo decay, ſo that its well there be one Crop of *Figs* in *England*, whereas the *bifera* are truly ſo in *France*, *Spain*, *Italy*, and other hot Climates, from whence they are imported.

My Obſervation on the Progreſs of the Fig itſelf is: The Fruit-Bud begins to be extended into a ſhort groſs Pedicle, on the Top of which is a ſmall Tubercle ſeparated from it by an Articulation: This Tubercle gradually encreaſes from a narrow Beginning to a turbinate *Fruit* in faſhion of a *Pear*, with ſeveral longitudinal protuberant Lines, well expreſs'd by *Tournefort*, until it terminate in an *Umbilicus* or *Navel*, like that of Apples, Pears, or other *Pomiferæ*, with a *Rofaceous Flower*; upon opening one of them, longitudinally, while the Flowers are in their full Perfection, there is externally to be obſerv'd a ſolid compact Subſtance, one or two Lines thick; next to that is a Subſtance not ſo compact but looſe, making the Appearance of parallel Fibres or Lines from the Circumference to the Center; the third Row conſiſts of oblong tubulous Flowers on the Top of moſt minute Tubercles, and deriving their Origin from this ſecond Series of Fibres; ſo that being open'd longitudinally there is the Reſemblance of a Kidney, externally is the compact glandulous Subſtance for percolating the Urinary Particles in the Kidneys, and attenuating the Nutritive Particles for forming of the minute Flowers and Embryons in the Figs; the ſecond Row are ſo many excretory Ducts for the Urine and Tubuli to convey the attenuated nutritive Juice to the *Fig Flowers*, for this lacteal Juice is at firſt ſo groſs, the Embryons and Flowers are ſo minute they could never have been form'd without ſome ſuch wonderful Contrivance to attenuate the Matter of which they are form'd within

within so small a Bounds, neither does this gainsay *Matpighi's* admirable Contexture of Fibres, which may be interwoven with these parallel transverse Fibres, and which tend directly to the Basis of the Flowers. This Cavity is for the most part triangular, and sometimes oval and pointed, *i. e.* the Flowers begin at a point towards the Pedicle, a Row of Flowers on each Side possess the Surface of the Cavity till they come near to the Base parallel to each other, like so many Keys of an Organ or Spinette. As they draw near to the Umbilicus or Navel, this Cavity either becomes flat with another Row of Flowers making a Triangle, or both Rows from the Sides meet in a Point at the Navel, as they did at the Pedicle; each of the Flowers are expanded at their Border like a Trumpet, and divided into 4 or 5 pointed Segments, being, generally speaking, as *Boerhaave* has with *Mons. Geoffroy* well observ'd, Hermaphrodite Flowers; for beside the Embryon with its crooked *Tuba*, I have taken out several proportionally large *Apices* from some Flowers, in others I have seen the *Stamina* arising from the inner Surface of the single Petal, which shews that *Stamina* and *Apices* are destinated to each of them, tho' the Minuteness of the Flower does not allow them to arrive at their full Bigness, as we see in *Lithospermum* tho' it be *Gymnotetraspermos*, yet seldom do above two ripe Seeds succeed to each Flower; also in *Verbena*, its oblong tubulous Calix seldom has room for above two ripe Seeds to each Lip-Flower, and very often these abort also; Yet none will deny but both these Plants should have four Seeds contain'd in each Seed-Vessel. From what is said if I may be allow'd to account for what another represents to be Fact, if according to *Pontedera*, the *Ficus Sativa* in *Greece*, has only female Embryons; here the *Caprificatio* of the Ancients and *Tournefort* must be necessary in order Impregnation. But in *Italy*, where both Hemaphrodite and Male Flowers are intermixt in the same Fruit, there is no such Necessity of this *Caprificatio*, there being Farina enough in each Cavity to answer the Design. *Pontedera* indeed seems to deny any Male or Hermaphrodite Flowers to the *Italian Ficus Sativa*, but when he allows his *Erynosyce* to have them, and that where they are, he confesses they have both a delicious Taste, and that they often come to Perfection, it plain the *Apices* must be assisting in the one and why not in the other, and this is farther confirm'd when he says this Insect nestles chiefly in the *Caprifici* where the Male Flowers abound, and that when they fly abroad they carry a great Quantity of this Male Dust along with them, which 'tis presumable is deposited either upon the *Sativa* or *Erynosyce*; for tho' they do

not nestle in, yet they may feed on them; and in Retribution bestow this prolifick *Materies* to further their productive Quality. And there is nothing more certain, than that, according to the Climate or Season, the male Flowers more or less abound as we see in most of the pomiferous and pruniferous Trees, with Rosaceous Flowers, as Apples, Apricots, &c. so that tho' *Ficus Sativa* have only female Embryons in *Greece*, it may have Hermaphrodite Flowers in *Italy*. By what is said, it appears the Vegetation and Maturation of this *Fruit*, is perform'd after a quite different Manner, from all others. I have elsewhere remark'd that a small *Pedicle*, which only transmits a crude, raw, undigested Juice, is capable to nourish the most delicate *Flowers*, and the most delicious *Fruits*, by means of the *Vasa præparantia*, and the frequent reiterated Circulation of the Sap in them; by which these Particles are at length so attenuated as to form the most refined Substances in the whole Plant. I have also taken notice, that the grosser Particles still occupy the Circumference when the nearer it approaches to the Center, there is the most subtilized and duly prepar'd Substance, such as the prepar'd male and female Parts for Generation. Thus we see a *Tulip*, the *flowering* Bud is at first of an *herbaceous* Colour, as the ascending and descending Sap is more attenuated the nearer it approaches to the *florid* Colour; upon the Expansion, the inner Surface of the *Petals* first shew the Elegancy and exquisite Refinedness, whether in the Stripes or not which in a very little time manifest themselves over all the Substance of the *Petals*. When the *florid* Part is past, the same Juice being both more attenuated as it is confin'd to ascend in a direct Line at the Center, and being impregnated by the male Effluvia, as we see in teeming and conceiving Women, first swells the *Ovarium* or *Seed-Vessel*, then forms the adventitious Substances of *Placenta* and *Cotyledons*, then encreases the outer Integument of the *Ovum* and the most subtile Parts; last of all pass by the perforation to the Point of the Radicle, and by degrees form the *Seed-Leaves* and *Plume*, the *primum Principium* of the *Plant*. In the Vegetation of the Fig, on the contrary, the *Center*, which in all other Flowers and Fruits contains the most subtile Parts, is only an empty *Cavity*; the Circumference, as in other cases, is compos'd of the *grossiest Substance*, where after repeated Circulations betwixt it and the *Pedicle*, and from thence to the Body of the Plant, and so on as in other Fruits, as the Particles are attenuated they are receiv'd into the Orifices of the *Tubuli*; which compose the second Row, or more loose Texture of the *Parenchyma*; being thus *percolated* as by the *Glands* of the *Kidneys*, after a short Progress

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they meet with yet more subtile *Strainers*, viz. the Calices of the minute *Flosculi*, that from thence may be form'd the *monopetalous Petalculi*, (as it were) with their most minute *Embryon* and *male Apparatus*. I have chosen this Way of Reasoning to given a clearer Idea of the Circulation of the *Sap*, and to shew that the most subtile Substances can only be found by the continual Influx and Reflux of the *Sap*, thro' appropriated Vessels, as the only mean to subtilise and refine such Particles as compose the Flowers and Fruits of Plants. And being thus engag'd, let me add another Thought concerning the Maturation of this *Fruit*; we have seen what *Tournefort* and *Pontedera* would make of the *Caprificatio*, I am of opinion 'tis serviceable another Way, viz. by being assisting at the Perspiration of superfluous Particles. The Analogy betwixt Plants and Animals is now past doubt, and in nothing more does it appear than in the Transpiration, where when the circulating Fluid comes by its Quantity to exceed the Capacity of the Vessels in which 'tis contain'd, Provision is made of Pores throughout all the external habit of the Body, whether of Plants or Animals, thro' which what Particles are superfluous may freely pass into the open Air; whereas were they still retrain'd there would answer what is called a *Plethora*, by which these Fluids would be ready to stagnate, make a Disruption of the containing Vessels, and in a Word to put all the Animal and Vegetable Œconomy into disorder and confusion; so that the use of these Insects in *Greece*, may be more necessary than in *Italy*; for in the one the scorching Heat may so corrugate the Pores, that without the assistance of these Perforations or Terebrations to open the Pores, or make new Orifices, the Circulation could not be duly perform'd, nor the Fruit brought to a desireable Maturity; I purposely omit here the consideration of the Air, or its effect on Plants, that being a Subject of another nature, I may hereafter take an Opportunity to discourse of it at more Length; something may be expected from me in this Place, concerning the manner of Curing and Managing of them abroad when they are to be exported; but as that is a Practice not like to take place here in *England*, where what they ripen is only for present eating; as I can deliver nothing concerning it from proper knowledge, so I have not thought it necessary to make great Enquiry about what can be of no Use with us. What else remains to be discoursed on as to the manner of Propagation, Culture, and Management of the *Fig-Tree*, with the variety of Species cultivated here in *England*, the Ingenious Mr. Miller has so largely discoursed on these Particulars in his *Gardiners Dictionary* that I recommend it to the Reader's Perusal.

Virtues and Uses.

We see the most valuable temporal Blessings the Children of *Isreal* enjoy'd in the Land of Promise, were the Product of their Corn, Wheat especially, the Vine, the Fig-Tree, and the Olive; and the Deprivation of them was one of God's heaviest Judgments. "The bringing a
 "Famine on the Land, when the Fig-Tree did not blossom, and the
 "Labour of the Olive fail'd; neither was there any Fruit in the
 "Vine." Our Saviour pointed out a favourable approaching Season by the Fig-Tree pushing forth her Buds, and he chose to satisfy his Hunger by the eating of Figs; as Almighty God in the Old Testament appointed the Performance of a Cure, by the ordinary means of a Cataplasm of Figs apply'd to *Hezekiah's* pestilential Boil: so our Saviour propos'd a Salutiferous *Balsam* of *Wine* and *Oil* fit to be made use of in the new, which passing by the name of the *Samaritan Balsam* is in great Esteem among the Inhabitants of those hotter Regions to this Day. There is not any Simple that with so little Preparation can be brought to answer the design as *Figs* are. Being taken out of the Vessel in which they are imported, and eat, they immediately become our *Food*, being *nourishing*, *strengthening*, and *restorative*: They are agreeable to most of *Palates*, and seldom offensive to the weakest Stomachs; by their balsamick Particles they *obtund* the *Acrimony* of the Blood, which renders them, and whatever Preparations are made of them, so effectual in *hectick* and *consumptive* Cases; a Glass of Wine, Sack, or a little Brandy with a few Figs, taken in a Morning upon a Journey, or before any suitable Exercise, proves an excellent *Stomachick* and ready to create an Appetite. *Pectoral Ptisans*, *Infusions*, *Decoctions*, *Strengthening Broths*, *Gellies*, *Electuaries*, and *Linctus's* of the *Pulp*, have all of them Figs for a principal Ingredient; in a word, whatever be the Distemper or Disorder in the Breast; as *Asthma*, *Pthysis*, *Febris Hectica*, *Tabes*, or that has any other Tendency to a *Consumption*, *Figs* are always effectually used.

Externally, they are proper Ingredients in *Emollient*, *Discutient*, and *Suppurating Cataplasms*, with roasted Onions *Ung. Basil. Dialtheæ* with or without the *Farinæ*, and mix'd with other *emollient* and *discutient* Ingredients *ad libitum*, in *Bubo's*, *Carbuncles*, *schirrous scrophulous* and *cancerous Tumors*, *indurated Glands* in the *Axilla Parotides*; either roasted and apply'd hot alone or mix'd as above, are effectual also to the *Anus*, in case of what they call the blind *Hemorrhoids*, when there is hazard of Suppuration.

In swelling of the *Uvula*, *Quincey*, tumify'd Tonsils, sore Throat, and Sharpness of Humours in them, with roasted Figs, or a Gargarism of them is good.

Filipendula.

Filipendula vulg. an Molon Plinij. C. B. 163. Tournef. Instit. 293. Hist. des Plantes 441. *Filipendula* J. B. 3. 27. 189. Raij Hist. 623. Synopf. Stirp. Brit. 3. 259. Morisf. Hist. 3. 322. Dropwort.

The Tribe.

'Tis plac'd among the *Umbelliferæ improprie dictæ* by *Morison* and *Bobart*, for which they are reprimanded by other Botanists; because the umbelliferous Plants of late times are not esteem'd such as have a proper Pedicle belonging to each *Flower*, several of which proceed from the same Origin at the Extremity of the common Pedicle; but such as have two *Seeds* succeeding to each *Flower*; however as these *Flowers* being gathered together into *Umbells* or *Tufts*, first distinguish'd them by the name of *Umbelliferæ*, and as Dr. *Morison* was sensible this Plant departed from that general Rule, because several *Seeds* succeed to one *Flower*, it was not without Reason he call'd them *Improprieæ*. 'Tis among *Tournefort's Flores Rosacei* a most complex Class, where only the Petals being in *orbem positi*, brings them together without any other mark of distinction. Mr. *Ray* takes Notice that some objected against his calling these *Flowers Flores Staminei*, which would seem to confound them with those of another Class, and he has prudently altered the Word into *Staminosi*, he otherwise brings it in with the *Semina nuda polyspermæ*; *Herman* and *Boerhaave* make it also *Gymnopolyspermos*.

The Description.

It has numerous partly knobby, partly fibrous Roots, blackish without and white within, proceeding from a gross Head, and hanging down like so many *Thumbs*, to which adhere several oblong or round *Tubercles*, about the bigness of Olives. The long, narrow, dark green, pinnated *Leaves*, with Segments much larger than these of *Milfoil*, are dispos'd

dispos'd upon a Midrib like those of *Agrimony*, or *Argentina*, with a shorter betwixt two longer denticulated *Pinnæ* lie flat on the Ground. The naked streight round striated Stalk, arises the second Year somewhat branched at the upper Part, one Span or one Foot high. The numerous *odoriferous Flowers*, reddish without, and white within, are *hexapetalous*, proceeding from a *monophyllous* denticulated *Calix*, divided into forty Segments, bending downwards, with numerous *Stamina*, surrounding a gross round Pistillum, like a *Tun* or *Barrel*, compos'd of Sixteen or Seventeen *Embryons* plac'd edge-wise, which afterwards become so many *flat Seeds*. It grows in dry Banks, Meadows, and Pastures.

Virtues and Uses.

It is of no great Use in Physick; some alledge it is diuretick; others recommend it for the *Fluor albus*; it is also said to be good in *Hernia's* and for *scrophulous Tumors*, *per signaturam*, because of the knobby Root, and there are who prescribe it in medicate Infusions, in Wine or Ale on that account. To me the Roots seem to be potent Astringents, so that their external Use is in repelling of *scrophulous Tumors* and *Hernia's*; but internal Astringents can be of no great Use in such cases.

Filix. IV.

1. *Filix mas non ramosa dentata* C. B. 358. Tournef. Instit. 536. Hist. des Plantes 473. *Mas diſta ſive non ramosa* J. B. 2. 37. 337. Raij Hist. 143. Morif. Hist. 3. 578. *Male Fern*.
2. *Filix ramosa pinnulis obtusis non dentatis* C. B. Tournef. Raij Hist. *ramosa repens vulgatissima*. Morif. *ramosa prior Trago ſive ramosa repens* J. B. *Female Fern* or *Brakes*.
3. *Filix ramosa non dentata florida* C. B. Raij Hist. 151. *Osmunda Regalis vulg.* & *palustr.* Tournef. *Regalis ſive Filix florida* Park. 1038. *Filix Botrytes ſive Major*, *pinnulis non dentatis ex adverſo naſcentibus* Morif. Hist. 3. 593. *Osmund Royal* or *Flowering Fern*.

The Tribe.

These may be called *Capillares majores* in Contra-distinction to the *Adianta* Decad I. They are said to be *flore fructuque carentes*, by *Tournefort*, tho' none delineated their *Fruit* more accurately than himself. They are justly said to be *Seminibus minutissimis* by Mr. Ray, the first two are called *Epiphyllispermæ*, tho' the third be said to be florid, yet the other Species too are so as much as it. *Tournefort* has examined the *Fruit* or *Capsules* of all of them with great Accuracy, but I suspect it has been when the double Rows of them on the Back of the Leaf, began to turn blackish, or when the *Capsules* were ripe; for who will attentively behold the Back of a *polypod Leaf* early in the Summer, they may observe even with the naked Eye, the yellow Apices of the *Flowers*, preceeding the *Fruit*, which are faded when these parts begin to turn dusky or black; so that I have no doubt but these *Capillares* are endow'd with regular *Flowers* also, tho' by their Minuteness have not yet been fully discovered. All of them have a streight round tough smooth *Costa Media*, or *Midrib*, arising from the Root, and mounting to the Extremity naked for some Length, and then sending forth other smaller *pinnated Leaves* on each Side, these below larger and longer, lessening and shortening by degrees as they ascend. They are also divided into *Ramosæ* and not *Ramosæ*, the *Ramosæ* have other lateral *Costæ*, which proceed on each side from the perpendicular one. The *non Ramosæ* are without any of these Branchings off, the *Filices* and *Filiculæ* or *Adianta* are also distinguished according to the Thickness of their *Pinnæ*, and manner of their Dentations.

The Description.

1. The first is *unbranched* with *long dented Pinnulæ*, the Root hard black intricate with few Fibres: It is one of the *Epiphyllispermæ*.
2. The second has large *pinnated Leaves* sending Branchings forth on every Side but not much indented; the hard black tough Root is not so intricate as the former, but reaching streight and deep in the Ground, is seldom to be trac'd to its other extremity, but breaks by strong pulling, without any radical Fibers (a thing not usual) when it has penetrated very deep it runs far below Ground, and all round never

ver can be rooted out. Cut this Root transversely and there appear the form'd Root and Branches, as it were of an *Oak-Tree*, tho' 'tis probable this may be the same which *Loeselius* has observ'd in the *Osmunda Regalis*, when he says *Radix rotunda dissecta geminae Aquilæ figuram format*. So that what the *Germans* esteem for a *double Eagle*, we look upon as an *Oak*; the Truth is this, only the Sap-Vessels ascending and descending in the Root, still observing the same Situation as we see the Blood-Vessels do in the Animal Body.

3. The third is a large elegant stately *Plant*, one of the unbranch'd *pinnated Leaves*, light green, smooth, and no wise dented in the Edges; arises three or four foot high, among these there are other Leaves of the same Height with three or four Branchings on the Top, endow'd with short *Pinnulæ* curled or shriveled up, full of the *Capsulæ* or *Seed Vessels* with the former, but otherwise dispos'd; the Root of this and the first are very intricate, but the second simple as is said. The first grows in Woods, mossy and shady Places, on Bank-sides, and near to the Roots of Trees. The second very frequent on barren Places, and is a Plague by its spreading every where. The third grows at the sides of Lakes, and other watry Places but not very frequent. 'Tis well known by the *London* Herborisers, to grow in a Bog at the Back-side of *Woolwich*, near the Warren.

Virtues and Uses.

I dare pretend to deliver nothing certain concerning the Virtues of these *Plants*. The small *Capillaries*, their Congeners, 'tis probable may be good Absorbents for correcting of Acrimony in hectick Cases; but the Texture of these larger Plants may be more strict; and the Particles too gross for such Uses; as we see Pullets, Veal, Lambs, Pigs, Goslings, eat more tender than the same Animals when at full Age and much larger. So Plants of the same Virtues, are not of so good Digestion, when the Differences in Bigness is such as between the *Adianta* and *Filices*. I am not very fond of a traditional handing down what Antiquity has inform'd us, unless the manner of the Operation can in some measure be accounted for. One says the *Radix Feminae* is a secret against Worms; that may well be by its Particles being rigid and scabrous; but I know not who can trust to the *Filixmas*, being the cause of Barrenness; the *Rad. Osmundæ regalis* may be good in the Rickets, &c. as a subastringent Strengthner, but as there are other
Simples

Simples on whose Operation we may more fully rely, such obscure Remedies may be let alone. Certain it is that they all very much abound with a fix'd Salt, especially the Femina, which they pull up in the Season and burn it, selling the Ashes at a good Price to those who are employ'd in the whitening and bleaching of Linnen-Cloth in Scotland, it being thought preferable to that of Pot-Ashes, whose Salts being too acrimonious are often suspected to rot or burn the Cloth, in the Lee, like that of Quick-Lime.

V. *Fœniculum*.

1. *Fœniculum dulce* C. B. 147. Moris. Umb. 3. Raij Hist. 458. *Dulce & majorj semine albo* J. B. 3. p. 2. 274. Tournef. Instit. 311. Hist. Oxon. 3. 270. *Fœniculum sive Marathrum vulg. dulce* Lob. Icones 775. Sweet Fennel.

2. *Fœniculum vulg. minus acriori & nigriori seminei* J. B. Tournef. Raij Hist. vulg. *Italicum sem. oblongo gustu acuto* C. B. *sive Marathrum vulg.* Lob. Icon. Moris. Umb. Hist. Oxon 3. Common Fennel.

3. *Fœniculum perenne capillaceo fol. odore medicato* Tournef. *Meum foliis Anethi*. C. B. 143. *Athamanticum* Moris. Umb. vulg. *tenuifol.* Hist. Oxon. 3. 270. Raij Hist. 432. *Radix ursina* J. B. 3. 2. 27. 11. Spiguel, by some called Scots Gentian.

4. *Fœniculum orientale Cuminum dictum* Tournef. *Cuminum* Moris. Umb. 4. Hist. Oxon. 3. 271. *semine longiore* C. B. 141. *Cyminum sive Cuminum sativum* Raij Hist. 433. J. B. 2. 3. 27. 31. *Cuminum Dioscoridis* Lob. Icon. 742. Cumin.

5. *Crithmum marinum sive Fœniculum marinum minus* B. P. 281. Tournef. Instit. 317. Moris. Umb. 20. Hist. Oxon. 3. 289. Raij Hist. 457. *multis sive Fœniculum marinum* J. B. 3. 2. 27. 174. Rock Sampire.

6. *Peucedanum Italicum* C. B. 149. Tournef. Instit. 318. Moris. Umb. 36. Hist. Oxon. 3. 312. J. B. 3. 2. 27. 36. Raij Hist. 416. *Sow or Hogs Fennel*.

The Tribe.

I have discours'd so fully, Decad II. on the Notes and Characters which constitute the *umbelliferous Plants*, in the modern Acceptation, that I need only desire the Reader to consider what is advanc'd there, and

and proceed to give the distinctive Notes of the Plants, join'd together in this Place, chiefly on account of their *foliorum divisura*. They have all *Folia multifariam sive tenuissime divisa*, called sometimes, because of the tenuious and fine Texture of their *Segments*, *Capillacea*; and because of the *Fæniculum*, which introduces the rest, *Fæniculacea*; they are not always the same by their *Umbels* and *Colour* of the *Petals*; but correspond pretty much by their *Seed*, which are *Semina oblonga, crassiuscula, gibbosa, striata*.

The Description.

1. Sweet Fennel, has an annual fibrous, not very carnous Root; two narrow oblong *Seed-Leaves*, the *Flowering Stem* soon mounts, cloath'd with very fine *odoriferous*, dark green *Leaves*, cut into very fine small *Segments*; the *Umbels* on the Top, large, and flat; the *Petals* yellow and crumbled in. The *Seeds* are oblong pointed gibbous on the one, and plain on the other, sweet scented and white. It is sown in Gardens, but not for common Use, Sweet Fennel-Seeds being chiefly imported.

2. Common Fennel, has a perennial carnous Root, pushing forth the *flowering Stem*, the second Year when the *Root* becomes hard and woody, being covered with a safe carnous Bark. The fine cut *Leaves*, like the former, and vary into a reddish, dark green *Umbels*, the same *Seeds* not so white, nor sweet scented. It is often planted in Gardens. I have seen it grow wild, but do suspect it to be an *Ejectamentum*, being usually near Houses and Gardens. The Root endures several Years, but that which produces the flowering Stem perishes annually, as I have observed, in discoursing on *Cinara* and other perennial Roots.

3. *Meum*, esteem'd a *Fæniculum* by Tournefort, only agrees with it in the fine Texture of the Leaf, for the perennial Root differs both in Texture and Taste, it being blackish without, not so large, propagating by several portions at the Top, endow'd with large *Barbulæ*, or *Beards*, [amidst of which the crumbled up *Germina* of the *Leaves*, arise in the Spring, with dark green, much thicker set, and shorter *Pinnæ*: the flowering Stem not above one foot high, whereas the former arises two three or four Feet. The *Umbels* of the Flowers white, the striated *Seeds* not so large and darker. It grows in several mountainous Places in the *Highlands* of *Scotland*, and in the *Oechal Hills*

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Hills in Fife, being there commonly called *Gentian* or *Baldmony*.

4. *Cuminum* is a low Annual Plant, with the small Segments very much dispers'd, very little Umbels of Flowers, not above four or five together, to which succeed so many Pairs of oblong pointed striated high scented Seeds. It is sown in the Gardens of the curious but not plentifully.

5. *Rock Sampire*, so called to distinguish it from *Kali Geniculatum*, commonly called *Sampire*, in *Holland* in *Lincolnshire*, has a thick Root jointed above and fibrous below; it is of a much lower Stature than that of *Feniculum vulg.* to which it otherwise has some Resemblance. The Leaves are tripply divided into thick, gross, succulent, sharp pointed, and sometimes prickly Segments upon Foot-stalks, the Umbels are yellow, the Seeds are pretty gross, flattish, and striated. It grows frequent on Rocks on the Sea-Coast, and is otherwise called *Sea-Fennel*, with a saltish aromack Taste. It is called *Sampire*, from the *French* and *Italian* Words, *Saint Piere*, as if they meant *St. Peter's Herb*; *S. Pauli* says it is not otherwise known in *Denmark*, than by the Pickle imported from *Spain*, and other Parts; and to be had at the Tables of the richer sort of People, both there and in *Germany*.

It is of no medicinal Use, but by it's aromack and saltish Taste, it proves agreeable to the Palate in Pickles, and comfortable to the Stomach.

6. *Peucedonum*, or *Hogs-Fennel*, is a low Plant with very narrow tripartite Segments, a large Umbel, yellow Petals, and broad, flat, tough Seeds. It is also sown in Gardens.

Virtues and Uses.

The Seeds of *Sweet-Fennel* is, chiefly used, of an agreeable Taste and Smell, they are great Carminative Discussers of Wind, and easing the griping of the Guts, whether in Clysters, or taken at the Mouth; their chief Use is to correct the Acrimony and Flatulencies in several Purgatives, as *Senna*, &c. they are often an Ingredient in stomachick and medicate Infusions in Wine or Ale, also in carminative and digestive Powders. The Bark of the Root of Common Fennel, is one of the opening Roots in the Shops for Ptisans, Broaths, &c. The Seeds are also used, but not so often as the other Spignel Roots, are of great Demand in some Places, where the Inhabitants infuse them in Ale, and esteem them good Stomachicks: They are frequently prescrib'd in
medicate

medicate Infusions, they are discutient and hysterical. There is such an Affinity betwixt them and *Rad. Levistici* in the Taste, and *Barbulæ* that surround the upper Part of the Root, that were it not for the *Folia majuscula lobata* of the latter, and that the whole Plant is much bigger, I should chuse to class them together; and as to the medicinal Virtues, they are much the same.

4. *Cumin-Seeds* are most potent Carminatives, chiefly of use in Fomentations, the Taste not being always agreeable. They use to strow dead Corps with them in hot Weather. They are a chief Ingredient in Drinks for Horses.

5. *Hog-Fennel* is esteem'd a good Carminative with the rest, *deobstricent* and aperient, provoking the Menses, but it is not much used in Physick.

VI. *Fœnuigræcum*.

Fœnuigræcum Sativum, C. B. 348. Tournef. Instit. 409. Moris. Hist. 2. 166. Raij Hist. 54. J. B. 2. 17. 363. *Fenugreek*.

The Tribe.

This is one of the *Papilionaceæ Siliquosæ*, with a bended Pod; and hard corner'd, or Kidney Seeds.

The Description.

The *Seed Leaf* of this Plant is long, smooth, narrow, and bended. The flowering *Stalk* arises strait, about one or one and a half Foot high, adorn'd with alternate, trifoil, oblong, blunt *Leaves*. The *papilionaceous* white Flowers, less than those of *Pease*, arise from the Bosom of the *Leaves*, to which succeed long, slender, horn-like Pods, containing several very hard corner'd *Seeds*. The annual Root is hard and woody. It is sown in the *Gardens* of the Curious, but it's chiefly imported in Quantities from *Germany* for Use.

Virtues

Virtues and Uses.

The Seeds are so hard that they will not be pounded in a Mortar, but must be grinded in a Mill : They are *emollient*, *discutient*, and *digestive*, chiefly us'd for *Cataplasms* with *Farina seminis lini fabarum Fl. Meliloti*, &c. for discussing or maturing of hard indurated Tumours. It is also an Ingredient in *Mucilages*, for *Ol. de Mucilagibus Empl. de Mucilag. Diachylon magnum*. It is also us'd in emollient Clysters. Farriers make much use of it in Drinks for the Cold in Horses.

VII. *Fragaria*.

Fragaria, C. B. 8. 320. Tournef. Instit. 295. Raij Hist. 609. Moris. Hist. 2. 186. *Ferens Fragaria rubra*, J. B. 3. 17. 394. *Fragaria vel Fraga*, Dod. pempt. 672. *Strawberry*.

The Tribe.

Tournefort places this among his *Rosaceous Flowers*. It is one of the *Gymnopolyspermæ* with Herman and Boerhaave. Morison makes it one of the *Trifolia Pentapetala*, and Mr. Ray *Semine nudo Polyspermos*.

The Description.

It has an hard woody Root, several infirm Stalks running along the Ground, emitting frequently and alternately trifoliated, light green, nervous, denticulated, oblong, broad pointed *Leaves*, three proceeding from the same Origin upon long Pedicles. The Capreols, or Climbers, run also along the Ground, catching hold of what is next them. The round Stalks are jointed, emitting radical Fibres, by which 'tis propagated, and spreads all over the Ground. The *Flowers* in Clusters, with or without common Pedicles, are white *pentapetalous rosaceous* from a *monophyllous Calyx* divided into ten Segments, by which it corresponds with the *Pentaphylla*, surrounding many *Stamina* and *Apices*; in the Center of which is the gross round *Embryo fructus*, which afterwards becomes an oval or round esculent *Berry*, some white, others red,

red, larger or less according to the Species or Culture. They grow frequently in Woods and shady Places: They increase in Bigness by Culture; but those call'd the *Virginia Strawberries* have been imported, and are preferr'd to any other Species.

The Leaves of Strawberries are cooling and *substringent*, good in *Gargarisms* for sore Throats. They are also us'd with *Sorrel*, *Violet Leaves*, *Agrimony*, and *Fumitory*, for *Clarify'd Whey* in the Summer. The esculent Fruit at the Tables is well known; a Gelly may be made of them, serving for the same Uses as *Rasps*, *Currants*, *Barberries*, &c.

VIII. *Frangula*.

Frangula. Dod. pempt. 784. Tournef. Instit. 612. Boer. Ind. 11. 231. *Alnus nigra Baccifera*, C.B. 248. J.B. 1. 560. Raij Hist. 1604. Black-Berry bearing Alder.

The Tribe.

This is one of *Tournefort's* Trees or Shrubs with a *rosaceous Flower*, and justly plac'd among the *Bacciferae* by Mr. Ray, tho' he continues the Name *Alnus*, out of a due Regard, I suppose, to the *Baubini*.

The Description.

'Tis rather a *Shrub* than a *Tree*, seldom ascending with one *Trunk* (which I take peculiar to the Denomination of a *Tree*) but sending forth several small *Twigs* from the *Root*, with a smooth dusky outer *Bark*; but a yellow inner *Rind*, giving a *Saffron Tincture*. The broad pointed nervous *Leaves* resemble those of *Alder*. The small white *Flowers* in *Tufts*, or a *Spike* from a *monophyllous quinquefid Calyx*, are *pentapetalous rosaceous*, the *Petala* arising from the *Interstices* betwixt the *Segments* of the *Empalement*, surrounding twenty five *Stamina* and *Apices*. The *Pistillum* becomes a round succulent black *Berry*, each containing two small flat *Seeds*. It grows in the shady Woods, as in *Thorny-Holm* in *Whinfield-Forest*, *Westmorland*; in the Woods about *Hamstead*, and in the *Hedge* between *Dunstable* and *St. Albans*, near *Kerby-Bridge*.

Virtues and Uses.

The *Cortex interior* is in use ; it abounds with an acrimonious yellow Juice. It is said to be good in the *Dropsy* and *Jaundice* (I suppose because of the Signature) by evacuating of ferous Humours and reserating Obstructions ; but the internal Use of such acrid Medicines are not always to be recommended. 'Tis probable the early Observers of this, not being a true Alder because of the different *Flower* and *Fruit*, might have impos'd the Name of *Frangula* on it, from *frango*, because of the *Fragility* of its Twigs and Branches, which consisting of a white Wood, it is of so loose and brittle a Texture, that rather than bend, as other green Twigs do, the first and second Year it will readily break.

Fraxinella, vide *Dictaminus*.

IX. *Fraxinus*.

Fraxinus excelsior *Flore petaloide mas*, Boerhaave Ind. 2. 171. *Excelsior*, C. B. 8. 416. *Fraxinus vulg.* J. B. 1. 174. Tournef. Instit. 577. Raij Hist. 1702. *The Ash-Tree*.

The Tribe.

'Tis a high Tree with apetalous *Flowers*, sometimes separated, and at other conjoin'd with the Embryon of the *Fruit*.

The Description.

This is a tall strait Tree, whose *Roots* spread far in the Ground, endowed with a smooth ash-colour'd *Bark*. The *pinnated Leaves* arise by Pairs from the Branches, consisting of four, five, or six opposite dark green, oval, or pointed *Pinnæ* : The Clusters, or Racemi, of *petaloid Flowers*, with a double Stylus, appear in the Spring in some of the Species, while the oblong *flat Embryo* is to be seen in others, with a bifid Tuba. This afterwards becomes a Fruit like a Bird's Tongue,

Tongue, cover'd with a Capsula of the same Figure. 'Tis indigenous, growing naturally in Woods and Coppices, where it's not nice as to the Soil, deriving its Nourishment often from the Top of Craggs with shallow Earth, and from the Clifts of the hardest Rocks; but it is frequently planted out where it grows to be a tall, strait, beautiful Tree.

Virtues and Uses.

'Tis of a hard, white, tough, solid Wood, fit for various Kinds of mechanical Uses. The *Cortex interior* is look'd upon as a great aperient Reserater of Obstructions, and Diureticks; and is prescrib'd with *Cort. Tamarisci, Capparum, Sambuci, Berberorum* in *hydropical* Cases; also in the *Jaundice* and other Distempers, where Deobstruents are requir'd. It is infus'd in medicate Ale or Wine, and drank as they use to do Diet Drinks. The *Lingua avis*, or Fruit, may be also prescrib'd in the aforefaid Cases: It is more penetrating and subtile than the Bark.

IX. *Fumariæ.*

Fumaria offic. & Dioscoridis, C. B. 143. Tournef. Instit. 422. Raij Hist. 405. vulg. J. B. 3. 26. 201. Fumaria vulg. Latif. siliquis curtis non bivalvibus. Moris. Hist. 2. 261. Common Fumitory.

The Tribe.

This is class'd by *Tournefort* among the *polypetalous anomalous Flowers*. I have given an Idea of these *Flores anomali*, Decad VI. This is *floribus tetrapetalis difformibus*; but not *regularly papilionaceis*, because the *Siliquæ* are not *bivalves*. Mr. Ray at first plac'd them among the *Umbelliferæ*, because *Flores sunt Umbellatarum modo dispositi*; and in *Synops. 3.* it is still continued as next to the *Umbelliferæ*; tho' I know not for what reason, unless it be for a more easy Transition from 4 to 5 in the Number of the *Petals*. *Rivini* makes it the first of his *Flores irregulares Tetrapetalæ*; a strange Medley when 'tis own'd by all that the regular *tetrapetalous Plants*, whether *Petalis planis*, or *dissimilibus*, have either a *siliquous*, or *siliculous*

Siliculous Fruit. Here is a doubt he cannot well resolve, viz. Whether all the *Fumaria*'s should be esteem'd *siliculous*, or *gymnospermous*; himself proposes it thus, *Primum sibi locum vendicat Fumaria, scil. inter plantas quæ sunt flore tetrapetalo, & siliculis brevissimis nimirum florem ejus quatuor petalis accuratius jamjam descripsit Johannes Baubinus ast circa semina dubium oriri possit, cum a Cælsapino atque Morifono semen dicatur contineri inter parva veluti Capsula seu Vascula rotunda; quod tamen Raio nudum est, & sane plerisque nudum videbitur ideo quia suum sponte vix exuit involucrium quamquam satis maturum decidebat. Quemadmodum vero melilotus minima fructu Renali nigro, non dicitur semina gestare nuda quamvis eodem modo suum cum integumento dimittat semen, ita & hoc in loco non aberrat qui rigosius Fumariam examinaturus illam innumerabit siliculosas quæ singula semina, singulis inclusis siliculis gestant.* Boerhaave being apprised of this, plainly places it among the *Plantæ Siliquosæ*, and says it is *Papilionaceo simili flore*; and methinks the Editor of the third Edition of Mr. Ray's *Synopsis*, who has so much taken upon him to alter his celebrated *Author's* Distributions and Names in other Cases, should have at least given *Fumaria* another Place than among the *Semina nuda solitaria*; for, 1. Most of the *Fumaria*'s are *capsular* or *siliculous*, except this common one; why then should it be separated from its Congeners? because it is *Seminibus nudis*. 2. Morison calls them *Siliquosæ bivalves* & *aliæ variæ siliquis floribus autem inter se conformes*; so that he would not separate those of the same *Genus* for such a minute Circumstance. 3. If this is allow'd, a regular and *methodical Distribution* of *Plants* must go into Confusion. Are there not many *Siliculæ* among the *Flores cruciformes*, which may be as well call'd *Capsulæ*, if Liberty were given to that Class to enjoy both. 4. Would not many *Melilotes Trifoilæ*, &c. among the *Papilionaceæ* be esteem'd *Seminibus nudis*, if this were granted. 5. This would serve very well for *Rivini's Purpose*, which most of they who intend for Method reject, viz. That it matters not what the Fructification be, provided the Flowers agree in their regular or irregular Shape, and number of the Petals. But, 6. Mr. Ray himself owns, that all the *Malvæ* are *Enangiospermæ*, contrary to his first Opinion of their being *Gymnospermæ*, because *e communi matre totus decedit fructus*.

Boerhaave has given such accurate Dissection of this Flower, that I hope a Translation of it will not be amiss. The Leaves are *plurifarium divisa*, as in the *Umbelliferæ*; the small *Calyx* is in some Species plac'd below the *Calcar*, or Spur; in others 'tis wholly wanting. By a narrow Inspection into the Flower, it appears so far to be *tetrapetalous*; that

that the lower *Petalon* is stretch'd forth from the Extremity of the Pedicle, but the upper tending backwards into a hollow Spur, the fore-part is erect like a *Galea*, or *Helmet*; to this the *Calyx* and Spur adheres. The third and fourth being lateral, they form a very sharp *Vagina*, cover'd by the other two *Petala*.

The short *Embryon* with a long Tube and Button, is wholly cover'd by this *Vagina*, to which the *Stamina* are so firmly adherent, and which is so pellucid, that the *Apex ovarii* and the two *Testiculi* shine thro' it. This *Ovarium* becomes a short *unicapsular Silicula*, containing only one Seed.

The Description.

'Tis an annual Plant, with two long, narrow, blueish Seed-Leaves. The *flowering Stem* arises much bended and branched about one Foot high; the blueish *Leaves* are irregularly *pinnated* and divided into several short Segments, like the *umbelliferous Plants*; the small *Flowers* whitish above, and purplish below, dispos'd at the upper Part of the *Stalk* into *Racemi*, or Tufts, *monopetalous*, *anomalous*; to each of which succeeds a short Pod, containing a small round Seed. It grows very common in arable Ground among the Corn, also in the digged Ground in Gardens.

Virtues and Uses.

'Tis of a bitterish Taste and cooling Nature, fit for curbing the acrimonious Salts in the Blood, and allaying the Heat in such as are inclin'd to the *Scurvy*, and other cutaneous Eruptions. 'Tis drank in Clarify'd *Whey* with *Fragaria*, &c. as is observ'd. The contus'd Herb and Juice may be an Ingredient in Dyet-Drinks in the Spring. The *Shop Preparations* are the *distill'd Water* and *Syrups*.

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X. Galega.

Galega vulg. fl. caeruleis, C. B. 352. Tournef. Instit. 398. J. B. 217. 342. Moris. Hist. 291. Raij Hist. 911. Goats Rue.

The Tribe.

This is a regular *Leguminous* Plant, with regard to its strait *Stalk*, *pinnated Leaves*, *papilionaceous Flowers*, *siliquous Pod*, and *Kidney-Seeds*.

The Description.

It has a *perennial Root*, frequent, branched, strait *Stalks*, about one or two Foot high; alternate, oblong, narrow, *pinnated Leaves*, with equal Borders, consisting of five or six Pair of *Pinnæ*; with an odd one. The *Racemi* of pale, whitish, blue, pea-bloom *Flowers*, less than those of *Pease*, arise upon long *Pedicles* from the Bosom of the *Leaf*, or Top the *Stalks*, thick set in erect Tufts, to which succeed long, round, erect, cylindrical *Pods*, containing oblong *Kidney-Seeds*. 'Tis planted in Gardens.

Virtues and Uses.

'Tis esteem'd *Alexipharmick*, and good in pestilential Distempers; I look upon it to partake of the same Virtues with its Congeners. Its chief Use in the Shops is, that it enters the *Aq. Lactis Alexiterra*.

Gallium Luteum, vide *Aparine*, Decad III.

XI. *Genista*.

Genista angulosa trifolia, J. B. i. 388. *Angulosa* & *Scoparia*, C. B. 395. Raij Hist. 1723. *Cytiso-Genista Scoparia vulg. flore luteo*. Tournef. Instit. 649. Boer. Ind. 2. 27. *Common Broom*.

The Tribe.

This is another *papilionaceous* Shrub, which *Tournefort* separates from the other *Genista*, because all of them have one single *Leaf* proceeding alternatively from the *Stalk*, by which it partakes with the *Cytisi*, whose *Leaves* are *trifoliated*.

The Description.

It has an hard, tough, woody *Root*, descending deep in the *Ground*. Its numerous strait woody *Stalks* from the *Root*, rise three or four Foot high with erect *Branchings*, of a dark green *Bark*, emitting alternately small, dark green, pointed *Leaves*, three from the same *Origin*. The numerous, large, *papilionaceous*, yellow *Flowers* possess the upper Part of the *Stalk* and *Branches*; to which succeed several long *Pods*, flat at first, but afterwards swell'd and tumid, depending, hairy, and often bended like an S, containing several brown, hard, smooth *Kidney-Seeds*, which, when ripe, burst the *Pod*, and flow out with an *Elasticity*. It is indigenous in many *Places*, and Care is taken to cultivate it in others for various *Uses* (See Decad III. p. 142.) when discoursing on the Improvement of barren *Ground*, I direct the sowing of *Broom*, and rooting it up after three *Years*; and then taking three *Crops* of *Oats* from the same *Ground*, and so by *Turns* three *Years* after three *Years*, the *Ground* will be vastly improved, and the *Broom*, as well as the *Oats*, will sufficiently quit the *Cost*, and turn to a good *Account* to the *Owner* or *Farmer*.

III. *Broom*. Virtues and Uses.

Most of the *papilionaceous* Plants have a peculiar *sweet* or *farinaceous* agreeable Taste: that of *Broom* is much stronger, and the Scent higher, but scarce to be express'd by Words. It is a potent *Aperient* and *De-obstruent*, *reserating* of *Obstructions*, and *evacuating* of *serous Humours* by *Urine* in *icterical* and *hydropical* Cases; also provokes the *Menstrua*, an Infusion of *Flores Genistæ*, is an effectual Remedy in such Cases. It is also prescrib'd in medicate Infusions in Wine or Ale with other *Aperients*, for the same Purposes as are *Cineres Genistæ*. The *Flores Genistæ* are employ'd in Fomentations to *anasarcous* Legs, for *hydropical Swellings*; a *Fotus* may be made of the *Sumitates* and *Flores Genistæ*, to which may be added the *Lixivia* of the *Cineres*, in which the *anasarcous* Person may be bath'd after a due Regimen. Then the Skin is to be rubb'd dry, and a potent *Sudorifick* given to the Patient to sweat when in Bed. *Sal Genistæ* is also a good *Aperient*, and prescrib'd in such Cases. The tender *Buds* of the *Flowers* are pickled and sold instead of *Capers*, by the Name of *German Capers*.

The mechanical Uses of *Broom* are, that they make good *Besoms* for cleaning of *Floors*, by the Toughness of their numerous and small *Twigs*, on which account all coarse Substances made of *Birch*, *Heath*, &c. are call'd *Brooms*. They also use it for *thatching* of *Houses* in some Places, as they do with common *Reed* in others, which will continue for many Years; but the chief Use they make of it, where *Fewel* or *Firing* is scarce, is for baking of *Bread* in the *Oven*, boiling of the *Worts* at brewing, and drying of *Malt* in the *Kiln*; for which Purposes also the *Genista Spinosa major*, or common *Furze*, by some called *Whinse*, and by others *Gorse*, is employ'd.

XII. *Gentiana*.

Gentiana major lutea, C. B. 187. vulg. *Ellebori albi facie*, J. B. 3. 31. 520. Tournef. Instit. 80. Raij Hist. 716. Moris. Hist. 3. 484. Boer. Ind. 1. 405. *Gentian*.

The Tribe.

'Tis one of Tournefort's monopetalous Bellflowers, *Planta polysperma seminibus compressis*, by Morison; *vasculiferous*, with a monopetalous Flower, by Mr. Ray; and *Monangiopolyspermos*, by Boerhaave.

The Description.

It has a thick, gross, tough, spongy, yellow, parenchymatous, intensely bitter Root, divided below into several large Portions, from whence arise in the Spring several yellow, green, large, stiff, smooth Leaves, distinguished by three Nerves like those of Plantain; from whose Middle arise the smooth, unbranched, jointed Stalks, adorn'd with a Pair of less and more acuminate Leaves surrounding them at each Joint. They being three or four Foot high from their upper Part, arise the yellow monopetalous Bellflowers, divided into several Segments, proceeding from a long tubulous monophyllous Calyx, to which succeeds an uncapfular, oval, pointed, bivalvæ Fruit, containing several compress'd round Seeds. It is cultivated in the Gardens of the Curious; but the great Quantity of the Roots us'd in the Shops are imported, it being said to be indigenous in the mountainous Parts of the Alps.

Virtues and Uses.

The Adage always holds good, *Omnia amara Stomacho grata*. There is not a more intense Bitter in the Shops than *Gentian Roots*, nor any that better answers the Designs for which 'tis prescrib'd. I have in *Miscel. Observ.* distinguished betwixt the *Gentian* and *Corymbiferous Bitters*. *Centaur. minus* may be added to the first, while *Chamelum*, tho' it be *Flore radiato*, may well be added to *Absynthium* of the second. And if *Cort. Aurant.* with several appropriated *Stomachicks*, *Vermifuges*, and *Febrifuges*, are added, convenient Ingredients may be prepar'd, either for *Tinctures* or *Infusions* in Water, Wine, or Ale, for assisting the Digestion in a weak Appetite, restoring it when vitiated, and recovering of it when lost; and not only to prevent aguish and

intermittent *Distempers*, to shorten their Period when thus seiz'd, but to remove them altogether, and to prevent a Relapse by the constant use of them, either in a Climate where the Inhabitants are most subjected to such Diseases, or a Season when they are most frequent: And whatever may pretended to be done by some *Specificks*, however such may infallibly remove the Paroxisms for some time, yet they are seldom known to extirpate the Distemper. Nay, such is the Inconveniency that attends that Method, if once a Course of them is begun, the Patient is condemn'd to a constant Continuance in the Season, otherwise the Distemper is ready to return. If they are frequently us'd, they become ineffectual; and if any other Method is follow'd, all that was pretended to be done, by such *Specificks*, must first be undone, and the Patient in the interim is in greater Hazard of a Relapse than ever. *Rad. Gentianæ* may be either given in Powder or *Electuaries*, or the above *Infusions*, but the last is preferable; for however fixt it be in its Nature, as all *Bitters* are, yet it is communicative to any Liquor, and liquid *Bitters* are the most easy to be taken. The *Extr. Gentianæ* is a good Medicine, but Extracts and Pills do not so soon dissolve in weak *Stomachs*. It enters *Infus. Amar. Aq. Gentian. comp.* but such intense *Bitters* seldom communicate their Virtue by Distillation.

XIII. Geranium.

1. *Geranium Columbinum fol. Rotundo multum Serrato*, J. B. 3. 30. 473. *fol. malvæ rotundo*, C. B. 418. Tournef. Instit. 260. Raij Hist. 1055. *fol. malvæ rotund. maj.* Moris. Hist. 511. Doves-foot, Crane-bill.
2. *Geranium Cicutæ fol. Moschat.* C. B. Tournef. Moris. Ray. ad *Myrrhidem accedente*, J. B. Musked Cranes-bill.
3. *Geranium Moschatum viride*, C. B. Tournef. Raij, Moris. *Robertianum Murale*, J. B. Herb Robert.

The Tribe.

This Genus is one of Tournefort's *rosaceous Flowers*, *Pentapetalæ Pentacapsulares* of Morison, *Pentapetalæ Enangiospermæ* of Mr. Ray, and *Pentacocæ* of Boerhaave. There is a vast Variety in the Figure of the Leaves of this Genus, the Number of the Petals and Seed Vessels is determinate. But *Rivinus* can never wholly bring them in among his irregular

irregular Flowers, which is a great Objection against such a *Distribution*. And they who would have *Fumaria* and *Malva* to be *gymnospermæ*, should look upon *Geranium* to be so likewise, *quia è communi matre imo post plenam maturitatem totus decedit*; yet *Rivinus* himself must acknowledge this *Genus* to be *Enangiomonospermos*. The general Character then of this *Genus* is, that they have *pentapetalous Flowers*, a *pentapbilous Calix*, five short *Stamina* with the *Apices*, a *quinqvisfid Stylus*, a *can-dated Fruit* like a *Cranes-bill*, five *capsular Seeds* adherent to an *axis me-dius*, which when ripe start from it with an *Elasticity*, twisting their *Tails* like a *Serpent*.

The Description.

1. *Doves-foot Cranes-bill* has a long, strait, not very fibrous, *Root*; several round, more or less, deeply divided *Leaves*, upon longer or shorter *hairy Foot Stalks*, lying in a *Circle* on the *Ground*. The slender jointed *Stalks*, with less or more divided *Leaves*, arise in the middle, and support the little reddish *Flowers* two and two for the most part together. It grows frequently on *Banks* and *Way-sides*.

2. *Musked Cranes-bill* is an annual *Plant*, with several pinnated *Leaves* in a *Circle* also: The *Pinnæ* long, roundish, and deeply serrated, and somewhat hairy; the *Flowers* more numerous in *Tufts* or longer *Pedicles*. Its sweet Scent, and by being more *luxuriant*, makes it only distinguish-able from *Geranium Cicutæ folio inodorum*; but the *Rostrum* of the *Fruit* is longer. 'Tis sown in *Gardens*, where it is easily propagated by the *Seed*, which upon the first ripening, quits its hold with an *Elasticity*, twists its *Serpents Tail*, where the *Head*, by its *Gravity*, first touches the *Ground*, and by the *Point* of the *Radicle* at the *Extremity*, it, in a very little, springs forth, and the *Seed Leaves* extend themselves.

3. *Herb Robert* differs by the Bigness of the *Plant*, length of the red-dish *Stalk* and *Pedicles*, and Division of the *Leaf*, either like that of *Chervil*, or some of the *siliculæ pinnulis raris*, but of a different green. The *Stalks* are jointed, and the *Leaves* proceed by Pairs, from whose *Bosom* on long *Pedicles* are plac'd larger, reddish *Flowers*, two and two or more together. It grows on *Hedges* and shady *Places*.

Virtues and Uses.

They are all esteem'd *vulnerary subastringent*, and fit for *Decoctions* inwardly, and *Fomentations* outwardly; but not much in use, save the last, which is look'd upon as a *Specifick* in the *Kings-Evil* and *Scrophulous Tumors*, drank in *Decoctions*, or the *contus'd* Herb and *Juice* apply'd outwardly in *Fomentations*.

Glastum, vide *Isatis*.

XIV. *Glycyrbiza*.

Glycyrbiza siliquosa Germanica, C. B. 352. Tournef. 333. Morif. Hist. 289. *radice repente vulg. Germanica*, J. B. 2. 17. 328. *Common Liquorice*.

The Tribe.

This, because of its extraordinary *Virtues*, is one of the most conspicuous of the *papilionaceous Tribe*, with a *strait Stalk*, *pinnated Leaves*, erect *Flowers* and *Pods*, a deeply running *Root* and *Kidney Seeds*.

The Description.

Its *Root* runs very deep, and spreads as far below (if of any *Years* Growth) as the *Vine Branches* do above *Ground*; on which account they are compar'd to the *Sarmenta Vitis* when digg'd up; these intricate and numerous *Branchings* are long, round, and *flexile*, like the *Rods* or *Branchings* of the *Corylus*, or *Hazel Tree*; sometimes three or four Foot long, and about the Bigness of ones *Thumb*. The *Asparagi*, or new *Shoots*, arise every *Spring*, and ascend with a *strait Stalk* three or four Foot high, with alternate *pinnated Leaves*, consisting of six or seven Pair of green blunt *Pinnæ*, with an odd one. The *Racemi* of erect *Flowers*, like those of *Galega*, arise from the upper Part of the *Stalk* and Bosom of the *Leaves* (but seldom in *England*, for which it is by some esteem'd barren) to which succeed *strait*, round, *cylindrical Pods*,

Pods, full of *Kidney-seeds*; 'tis easy to account for this Barrenness with us, when we consider that the *Sap* is chiefly imployed in the propagation of the *Root* below ground, we may soon perceive the Reason why so slow in the *Fruetification*; *Crocus Autumnalis*, in the preceeding Decad, by its speedy setting forth its *Off-sets*, when the *Flower* is blown, never ripens the *Fruit* with us; *Vinca pervinca*, by its spreading all over the Surface of the Ground, and sending forth so many *Flowers* in the Season, never produces the *Pods* with us, unless its *Roots* be curb'd in a *Pot*, and its *Tendrils*, so soon as they appear, remov'd, only the flowering *Stem* left remaining, though I am credibly inform'd it often produces the *Fruit* in *France*. We see the *Potato*, which propagates vastly by the *Root*; however, it may *Flower*, yet it seldom produces, and more rarely ripens its *Apples*. Many such instances may be given to shew, that when the *Sap* is more plentifully bestow'd either on the *Root* or *Branches* of a *Plant*; the *Fruetification*, is thereby either retarded or wholly prevented. Dr. *Morison* informs us, that *Liquorice* does not at all thrive so well in *Spain*, because of the great Heat, but 'tis probable it may *flower* and produce *Pods* and *Seeds* more plentifully there; for he farther observes, that if it do produce the *Pods* in *France*, the *Seeds* contain'd are only hungry, and pin'd, and no wise productive; and that in *England* 'tis but very rare that either *Flower* or *Fruit* is to be seen, tho' the *Stalks* arise high and strong, and become woody towards *September*, but they are so tender, that upon the first *Frost* they wither and die.

Dr. *Morison* informs us, it grows naturally in *Agro Narbonensi prope Lateram oppidum*. 'Tis so useful a *Root*, that 'tis proper I should insist a little more on the Place where, and the Manner how, 'tis cultivated. There are four *Vegetable Substances*, which being at first *Strangers*, and transmitted from other Countries, are now become the *Glory* of the *English Nation*; *Lupulus Hops*, of which more hereafter; *Crocus*, whereof at large in the preceeding Decad; the *Potato*, at first brought from *Virginia* to *England*, and at first more generally cultivated in *Ireland*, and not so much known here until the *Revolution*, when the *Troubles* of that *Kingdom* sent several *Irish Families* hither, who propagated it in *England* with such success, that 'tis now generally sold in most of the country *Markets*.

Dr. *Morison* also informs us of this *Liquorice*; *Radix ejus magno cum quæstu & fœnore serebatur in Anglia, ubi maximam copiam vili pretio nunc exponunt venalem nullis radicibus Glycyrrhizæ in tota Europa provenientibus postponendam*. Mr. *Ray* also informs us, it is planted in *Pon-*

tefraet in *Yorkshire*, and *Workop* in *Nottinghamshire*. *Glycyrrhiza autem Anglica præcipuè æstimationis & ex transmarinis regionibus adveetæ præfertur*. He also informs us 'tis planted in several places in *Germany*; which makes me admire why such Quantities of what they call *Spanish Juice*, should be yearly imported, when we may be as well serv'd within ourselves; certainly we could make the Extract of Liquorice better at home than in *Spain*; for that hot Climate cannot produce such a succulent Root, as to yield such a quantity of an Extract. If 'tis alledg'd 'tis evaporated by the Heat of the Sun, Fire is for the most part so plentifully with us, that there is no great odds betwixt a Natural and an Artificial Heat. And whereas what is called *Spanish-Juice*, is sometimes of great demand here, and too great a plenty of *Planted-Liquorice* would bring down the Market; the making of this Extract would keep up the Price of the one, and not suffer the other to be sold at too extravagant a Rate. For the Culture of so useful a Plant, which should come naturally in here, I can say but little from proper Experience; but as the Report from expert Gardeners in such cases, is much to be rely'd on. They advise a deep, light, mellow Ground; if not naturally so, it must be made so by Art; for whatever is light and porous suffers the Shoots to spread as deep and as far as they are inclin'd: Whereas an hard stiff Ground, inclining to Clay, is ready to crush them. 'Tis therefore advisable to trench the Ground at least 3, but rather 4 or 5 Foot deep. Lay a good Quantity of fresh Horse-Dung in the Bottom, other old rotten and mouldy Dung, or Manure, above it. Last of all, the natural Ground digg'd out of the Trench, with which 'tis to be fill'd up. Let this be done in the beginning of *September*; and let it thus remain all the Winter: open your trenched Ground again in the beginning of *Febrary* next, then mix altogether very well, by turning it over, again and again, with the Spade, then throw in a good deal of Manure, or fresh Dung, into the Trench, now digg'd 4 or 5 Foot deep as before, next to that throw on the new mix'd Earth taken out of the Trench, until it is level with the Surface of the rest of the Ground; and because the fresh Dung in the Bottom will consume, and the Earth above will in time be more compact, and sink in the Surface; there may be some Barrows full of fresh, kindly, mellow, soft Mould, well sifted, and freed from any gravelly Sand, Clods, or the like, laid on, till 'tis one Foot or two above the ordinary Surface of the adjacent Ground: being thus prepar'd, you are immediately, *i. e.* in the Months of *Febrary* or *March*, to take the best *Crown-Sets* or Heads cut off from the Top off the Roots, from another Plantation, and

and plant them in Rows by a line at a Foot distance, with a setting Stick, making the Hole as big as will easily admit of the Set, without bruising or crushing any part of it; for whereas if the Set is cut off with a keen Knife, the Sap-Vessels being no wise injur'd, the *radical Fibres* will soon strike forth with great Freedom; but if they are bruised, or their sides crushed together, the Sap will be diverted, and the new Shoots much hindered in their Germination; cover the Sets so soon as they are put in, and let them be gently watered every Day, for that light open Ground, will require a good Deal of Moisture before it all will be well soaked. But care is to be taken it receive not too much Water, for that will sower the Ground, and vitiate the nutritive Juice, especially when the Shoots are yet but weak and tender. I do not advise any fresh unmix'd Dung to touch the Sets themselves, for as that is ready to heat at first, and then to sower in a short Time, 'tis more proper old rotten Dung, mix'd with new Earth, be plac'd nearer the *Roots*, and that the hot Dung be at a distance below, that the gradual Steam of the one, may refresh the other. They who carry the Liquorice Roots to any remote place for Sale, lay them among moist Sand to keep them from drying, and losing of their Weight; such a Method is proper to convey the Sets, in order to make a Plantation at any distance. If the *Crown-Sets* are not to be had, the Runners from the master *Roots* are the next best, which I have sometimes put into the Ground for a Tryal, by cutting off from the Rods the Carriers bring about to be sold; but a few Sets seldom thrive, because such pains is not taken to keep the Ground in such order, as when a Plantation is design'd. But if any have a mind to plant a good Quantity of Ground, without any considerable Charge, and only a gradual Expence: Let such determine the Quantity they are to employ, and divide it into 3 equal Parts; let one third be so ordered and prepar'd, as above, the first Year, and planted with the best of Crown-Sets, which may be plac'd thicker than is directed. Let the second Parcel be prepar'd and planted next Year with drawing as many as will serve from the first Bed; and so on with the remaining Ground, the third Year, which may be planted out with the Crown and Off-Sets of the other two. The fourth Year, raise all the Roots of the first Bed, or Beds, and now you begin to reap the Profit, when the charge of the former Plantations will be countervail'd, and a considerable Ballance come in, and then you may either employ that Ground to other Purposes, or, by refreshing with Dung and fresh Mould, it may serve for the same Use again. 'Tis true we are inform'd it improverishes the Ground

very

very much, which seems very probable, but a kindly Mould, such as it must needs be, cannot fail to be as good as that which never was improv'd for such a Design. Be that as it will, after once you begin to reap the Profit in this fourth year, a perpetual Advantage yearly happens, by raising of one Spot of Ground, and planting another in its stead: nor will the Charge be discernable, when put in Ballance with the Profit; nor need there be any Suspicion of damning the Markets by too great a Quantity, so long as there is such a Demand for *English* Liquorice abroad.

Virtues and Uses.

The Fig for a Fruit, and Liquorice for a Root, are the two most potent Pectorals we have, of the vegetable *Materia Medica*. Their delicious Taste renders them agreeable almost to every Palate, and such is their Texture of Particles, that they obviate almost every Symptom of the Diseases of the Breast. Liquorice in what they call a dry Cough, when the Matter is so thin that it cannot be expectorated, obtunds the keen and acrimonious Salts, by its balsamick Particles, that the Tickling is thereby much reliev'd, which is also the effect of Figs. When the morbidick Matter is so tough and thick, that there is an *Infarctio pulmonum*, a *Dyspnæa*, or shortness of Breathing, that the *Catarrhus Humor* cannot be expell'd by Expectoration, Preparations of *Liquorice* do so attenuate and loosen it, that the force of the Muscles and Air, do more easily fetch it up at the Expiration. In a Word, there's scarce any Distemper incident to the *Breast* or *Lungs*, but more or less of *Liquorice* may be an Ingredient; 'tis prescrib'd in most of *pectoral Infusions*, *Ptisan's*, *Decoctions*, *Syrups*, *Loochs*, or *Linctus*, *Electuaries*, *Powders*, *Trochiscs*, *Tablets*, *Extracts*, and *Pills*. For beside that which they call *Spanish-Juice*, or *Sugar of Liquorice*, which when not adulterated is a fine Medicine; there are several Compositions they call *Extractum Liquoritiæ* in the *Shops*, where a strong Decoction of Liquorice is the Base, and when evapourated to an Hony or Syrup Consistence, they strow in several pectoral Powders, *ad libitum Medici*, and bring it up to a dry Form. The following Extemporary Electuary is often prescrib'd to the poorer Sort, *Pulv. Liquoritiæ*, 1 Oz. *Helenii Treos Florentin.* 1 Oz. *Fl. Sulph.* 2 Gr. *Ol. Anisi* 2 gutt. *Mellis communis*, 4 Oz. *m. f. Elect.* *Lambendum cum baculo Liquiritiæ.* Simon Pauli pretends, as a Secret, that 'tis effectual in *Lue Venerea*; whereas the use of it in that Case is, to add
a little

a little *Liquorice* and Raisins towards the latter end of boiling a Decoction of *Guaiaicum* &c. to remove the Acrimony of the *Taste* in these woods, which is ready to affect the Throat; and indeed *Liquorice* itself requires to be us'd while green, in Ptisans and Decoctions, for if dry or boil'd any time, it has also an Acrimony, which affects the *Throat*, and instead of allaying is ready to raise the uneasy Symptome of the *Tickling* itself.

Gnaphalium Montanum, vide *Abrotanum* Decad I.

Gramen Caninum, vide *Hordeum*.

Gratiola, vide *Digitalis*.

XV. *Grossularia*.

This is a Shrub so well known, because of its Berry, which first comes in Season, when the green Geese begin to be eatable, therefore because 'tis frequently us'd as a Sauce to them, 'tis called the Gooseberry, and its being more frequently made use of in the Kitchen at the Table than in the Shops, where 'tis scarce ever employ'd as a Medicine. I need say no more of it.

H.

XVI. *Hedera Arborea*.

Hedera Arborea C. B. 305. Tournef. Instit. 612. *communis major* J. B. 2. 111. Raij Hist. 1505. *Tree Ivy*.

XVII. *Viscum*.

Viscum baccis albis C. B. 413. Tournef. Instit. 609. Raij Hist. 1583. *Mistletoe*.

R r r r

The

The Tribe.

I design'd at first to have treated each of these Plants in his proper place; but when I consider their manner of growing, the Texture of their *Wood*, Resemblance in the *Leaf*, time of *Flowering*, with their *Fruetification*. I have chosen to bring both together in this Place, because of their being so near of *Kin*. 'Tis true, the one is *Flore fructui contiguo*, the other a *Fruetu remoto*, but, *cæteris paribus*, that need not hinder them from being join'd together. I have explain'd what is meant by a *parasitical Plant* at *Cuscuta*; what is here further remarkable is, that the Berries of *Hedera* being committed to the Ground will spring forth, and the Plant will lay grovelling on the Ground, until it meet with a Stone or Brick Wall, Shrub or Tree of whatever Genus, then it will readily grasp it, and with *Cuscuta* emit its small short *Clavi* or *Cirri*, little short Points or *Nails* which it insinuates betwixt the Fibres of the *Tree*, or Joints of the *Stones* and Bricks, from whence it derives its Nourishment, and from thence forth it becomes indifferent whether it partake of the Earth any more. I have indeed observ'd in the Species *Folius variegatis*, that it is only nourished by the Earth, and tho' it readily climbs a Wall by leaning to it, and catching hold of what can be assisting to it in climbing; yet it does not emit its *Cirri*, as the other; *Viscum*, on the contrary, disdains to receive any kind of Nourishment from the *Earth*; for if you commit its Seeds to the Ground, they will rot, but it springs forth from the Mother-Tree itself, and having once taken Root, it no wise concerns itself with the Tree any more, by climbing or sending forth its *Cirri*, or little Nails, to suck nourishment from any other Part of it; but, like other Plants it receives its nourishment by the *Root*: Its manner of Propagation remain'd a Mystery for several Ages, and strange were the Conjectures, even of the most learned, about it. But of late that expert Gardener Mr. *Thomas Fairchild* at *Hoxton*, has so taught the Method of planting it, that the Manner of its Proagation, is now plainly demonstrable: but of this more hereafter.

Their general Character then is, that they are *Parasitical ever-green bacciferous Shrubs*. The one with a *rosaceous Flower* on the Top of the Embryon, the other with a monopetalous one, distinct from the Fruit; to both which succeed a round succulent Berry; the flowering Time of both is late in the Autumn, and their ripe Fruit about Christmas, or early in the Spring.

The

The Description.

Tree or Shurb-Ivy consists of many small, hard, woody, irregular Twigs and Branches, emitting *radical* Fibres fix'd into the Substance of whatever it climbs on. The Leaves are various, according to the Diversity of its Situation. If it lays on the Ground, or leans to a dry Bank they are stiff, smooth, angular, and cornered, of a *cæsius* or *blueish*, (with a certain Variegation in the) Colour not unlike those of *Arthanita* or *Cyclamen*, at which time they always remain in a barren State, which made most of Authors distinguish betwixt *Hedera Arborea Sterilis*, and *Baicifera*; but from proper Observation, if this *Hedera* is remov'd from the Ground where it seldom emits radical Fibres, unless at the *Roots* of *Trees*, and is planted by a Wall or Tree where it may mount, then the fashion of the *Leaf* changes: for they now become subrotund at the Base and pointed, of a shining dark, green; towards the latter Season they begin to form their *Corymbi*, emitting several proper, from one common Pedicle or foot Stalk, each of which support an hexapetalous rosaceous Flower on the Top of the *Embryon*, with six Stamina and Apices. This *Embryon* afterwards becomes a round *Berry*; first green, then black, full of *Seeds*, compress'd on the one Side, and convex on the other. Its place of growing is too well known over most of the Hedges, Woods, and Plantations in *England*, where care is not taken to prevent its grasping round the Shrubs and Trees, sucking up their Nourishment and starving them.

Mistletoe. 'Tis much to be admir'd why the inadvertent opinion of the *Ancients*, that this Shrub was chiefly propagated by the Birds greedily swallowing of the *Berry*, and that after the Pulp was dissolv'd in the *Gizzard*, they evacuated the *Seeds* by the *Anus* upon the neighbouring *Trees* in the Woods, should be so generally receiv'd, even to this Day; that the most eminent *Botanick Authors*, even *Tournefort* himself, seem to be of this Mind; not considering the Prevalence of the Digestion in Birds, that if Stones and the hardest Metals have been dissolv'd by the powerful Compression of the thick, strong, muscular, Substance of their *Gizzard*; can we suppose the *Seeds* of *Mistletoe* could escape. The most probable way therefore is, that there being a certain Bird which passes by the name of the *Mistletoe-Thrush*, which chiefly haunts those *Trees* where the *Mistletoe* grows in the Winter and stormy Season, when the Food for all kinds of Birds is scarce and rare, they greedily

greedily snatch up this *Berry*, which being succulent and full of a *viscid Juice*, so shuts their Beak until they get rid of it, that they are forced to fly to an adjacent Tree where they dart in the Beak so deep, and with such force, that they leave the Berry and Seed behind them, where it remains until it again spring forth. This consideration made the ingenious Mr. *Fairchild* think of artfully planting the Seeds on convenient *Trees*; the most proper are the *Crab*, the *Pear-Tree*, the *Hawthorn*, the *Oak*. It makes a far greater Progress in the two first than in the two last, where the *Leaves* are smaller, of a darker Green, the joints shorter, and the Growth much slower: His Method is, he makes a longitudinal Incision, not deep in the Bark, and places the *Seeds* in it at certain Distances; or he pares off a little of the *Cuticle*, or outer *Rind*, and then fixes the Berry, Seed and all, to which it adheres by its glutinous Substance; but in both Cases care is to be taken to preserve them from the *Birds*, who will readily take them away and deprive the Expectation, unless a small Net or peice of thin Lawn be plac'd to cover it. The *Seeds* are compress'd, or flat on both Sides, hard, black, *Heart like*, broad at the Base, with two obtuse Angles, terminating in a white Point, which is the Point of the Radicle, even before it begin to germinate or be stretch'd forth. The Seed being hard-press'd by its flat Side to the place prepar'd for it in the Tree, or it being plac'd edge-wise in the Gap, or Slit cut in the Back on purpose, with the conical Part or Point of the Radicle inmost; if it lie flat on the *Bark* in a few Days, is to be observ'd that this Point stretches itself and becomes round, and very sharp Pointed, like a Pin; in a few Days more it begins to bend inward like an Hook, when it insinuates itself betwixt the Fibres of the *Bark*, when in a short time it sends forth its radical Fibers all round like the Root of a seedling plant, after being first committed to the Ground; which done it sends forth two small, oblong, blunt, smooth, shining, *Seed-Leaves*, the *Plume* arises sharp in the Middle, and after near half an Inch in length, it is stretch'd forth into another pair of *Leaves*, much larger than the former. Thus far during the Spring Shooting time: In the Autumn it prepares the Buds, and then begins to send forth two new Stolones from the Center of the first pair of *Leaves*, where the Joint is form'd; This second or first pair of *Shoots*, being about one Inch long, against the next Spring, send forth another pair of *Leaves* on the Top of each, which are now near their ordinary Bigness, viz. an Inch and an half long, and half an Inch broad, blunt, dark green, stiff, and shining. Thus from one Trunk, not above one, or one an and half Inch long, and seldom

dom exceeding the grossness of one's *Thumb*, is the Plant variously branched out. On the Top of each Joint is one pair of *Leaves*, from betwixt the joining of these two *Leaves* do arise 2, 3, or 4 new *Shoots* for next Year, which again terminate in so many pairs of *Leaves*, form so many new *Joints*, and send forth so many new *Shoots* against next Year; so that counting from the first Trunk, the age of the *Plant* is soon known, the latter *Joints* encrease in Length and the first *Joints* in *Grossness*, for 'tis the Age that causes the Grossness which yearly encreases in Bigness, according to the several Setting-times; and 'tis the quantity of the Sap, with the repeated Circulations, which add new Vigour to it, that stretches forth the younger *Shoots* to the greater Length. The *Bark* is smooth, the *Wood* is firm, solid, and ponderous; the new *Shoots* green and more flexible the first Year. After 3 or 4 Years the *Flowers* begin to be push'd forth in *August*, and are in their full Vigour in *September*, 3 and 3 together from the Bosom of the *Leaves monopetalous*; deeply divided into 4 blunt *Segments*, without *Stamina* or *Apices*; the outside is green representing the *Calyx*, where the *Segments* are every where larger; on the inside is a narrow Margin, or Border, making as it were a distinction betwixt the *Calyx* and *Petalon*, which is so firmly adherent to it, that they cannot be separated. The inside of these florid *Segments* is yellow, bespread as it were with *Flower of Brimstone*, which upon narrow Inspection are so many *Globules* or *Apices*, fill'd with the *Farina Fecundans*, which when ripe becomes blackish, upon which they immediatly quit their Hold, and fly away to impregnate the *Female Embryons*. *Tournefort* says, these *Embryons* are upon different Branches arising from the same *Root*, and all other upon Branches from different *Roots*. *Boerhaave* also says, 'tis *Flore a Fructu remoto*; but I am of the mind 'tis in *diversis Plantis*: For not to mention the great Quantity of *Viscum* brought into the *London Markets* about *Christmas*, all which are of the *Bacciferous Species*, which perhaps may be for the greater Ornament; that in Mr. *Fairchild's Garden* planted by himself, which did not *Flower* till after 7 Years, has yearly produc'd *Flowers* but no *Embryons*. So that 'tis probable 2 Seeds from the same Berry, have spring forth so near to each other on the Tree, that scarce any distinction can be made of them at the *Root*. The *Berries* are dispos'd after the same Manner 3 and 3 together, oval, at first surrounded by four thick, yellowish *Leaves*, which soon fall off as they encrease, until they become about the Bigness of *Bay Berries*, of a shining Silver Colour, fill'd with a viscid Juice in which the Seeds are lodg'd. As these *Flowers* bespread with the *Farina*, and being carried away by the

least Wind, when 'tis ripe, give a good Idea of the manner of *Impregnation* of the *Embryons* at a distance ; so the insertion of the *radical* Fibres into the body of the *Trees* on which it grows, confirms what I have advanc'd, *Botanick Essays*, p. 340, and 384. 'That the difference of the various Species of *Plants*, *ubicunque terrarum*, depends upon the several configurations of the Pores, which only admit of Particles of such and such a Figure, but deny admittance to any other ; or if they do enter, they must be molded, and fashioned according to the Pore.' The several kinds of *Graftings* are sufficient proofs of this, where the Fruit always partakes of the nature of the *Cion* and never of the *Stock*, and this *Viscum* very much confirms it. For whether the *Mother-Tree* be *Oak*, *Hawthorn*, *Apple*, *Pear*, &c. *Mistletoe* is still the same, either with regard to the active Principles it contains, or its eminent Virtues. 'Tis indeed observable the harder the Wood of the *Tree* is, the more slow the Growth of the *Viscum*, and the smaller the Plant ; but that depends upon the Tenuity of the Fibres, which does not allow the nutritive Particles of the *Viscum* to be percolated or strain'd out in such an abundance as the *Plant* requires. I could insist longer on this Subject ; and give an account of the intricate *Radification*, so to call it, of this *Plant*, in the several *Trees* on which it grows, and the various Ramifications of the *radical* Fibres, with their Inosculation with the Fibres themselves of the *Mother-Tree*. But as such a discovery is the effect of the laborious Endeavours of the accurate Dr. James Douglas, far be it from me to rob him of the Glory, due to him for so much Pains, and so great Industry as he uses on this and the like Occasions.

Virtues and Uses.

There is but little to be said concerning the Virtues of *Tree-Ivy*. The *Leaves* are frequently apply'd to Issues to curb the proud Flesh, and allay the *Inflammation* round the Orifice, and some make small *Globules* of the Wood to be put into the Orifice instead of *Pease* ; by which it seems to be subastringent and *detergent*, which seems to be the more probable because its Juice is sometimes used to remove the *Morphew* and *Tettars* in the Face and Hands.

Viscum of any manner of vegetable Substance, would appear at first View to be the least assisting in the removing of those Maladies, for which 'tis recommended ; but when the traditional Virtues, assign'd to it by the Ancients, come to correspond with modern Experience,

and

and when the same is confirm'd by the Examination of its *Principles*, and by the frequent Experiments and various Preparations in making of its Chemical Analysis, by the abovenam'd Dr. Douglas, there remains no Room for to doubt of its being an effectual Remedy in all those Cases for which 'tis recommended, viz. that 'tis good in *Epileptick Cases*, both to Old and Young, especially the latter; also in *Paralytick Cases* and other nervine Affections. It may also be an effectual Uterine, as all other *nervine Medicines* are: It enters the *Pulv. ad Guttetam*, usually given to sucking Children about the 6th Month, when upon what they call the *breeding* of their Teeth, they are often subject to Convulsion Fits. There are who advise to pull it at such a time of the Moon's Age, use such and such Circumstances in the *drying* of it; give so many doses before the Full-Moon, and as many at the Change, pretending thereby that it operates like a Charm, or as the Moon directs. I care not to amuse the Reader with such Trifles, I am of opinion that given in Substance, is preferable to the giving of it either in *Tincture* or *Infusion*; being well assur'd, a great many *Medicines* are more effectual, when the *Stomach* is suffered to separate its more useful Parts, than when 'tis done before Hand, by any *Chymical* or *Pharmaceutical* Preparation whatever. Though I am not averse from its being imploy'd in *Tinctures*, *Medicate Infusions* in Wine or Ale, where it may be assisting to other Medicines of the same nature. Therefore whatever Sir. J. C. may pretend, there can be no such Dependance on his account of the efficacy of Mistletoe in Epileptick Cases, as Dr. Douglas can assure us from the various Experiments he has made; when he shall allow his curious Dissertation on the Subject to come abroad. 'Tis of the Juice of the Berry they make the Bird-Lime so useful for catching of Birds of the Hedge.

I once design'd to have given my Thoughts on this diversity of Principles and Virtues in *Viscum* from the *Mother-Trees* on which it grows; v. g. how it should come to pass, that a Plant of a different Species from another Plant, by which 'tis only nourished, as that an Oak, all whose parts are potent Astringents, and whose Particles are of so fixed a Nature, should afford Nourishment to another Plant, all whose principles are most active and volatile. But as I have explain'd myself fully as to that when treating on the Nourishment of Plants, *Botanick Essays*, No. V. p. 331. &c. I omit it here lest I should be thought to croud these Papers with too many Digressions extrinsick from the Subject.

Hedera terrestris, vide *Calamintha*, Decad IV.

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